RAILWAY AGE

FEBRUARY 18, 1950

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Vol. 128, No. 7 February 18, 1950

RAILWAY AGE

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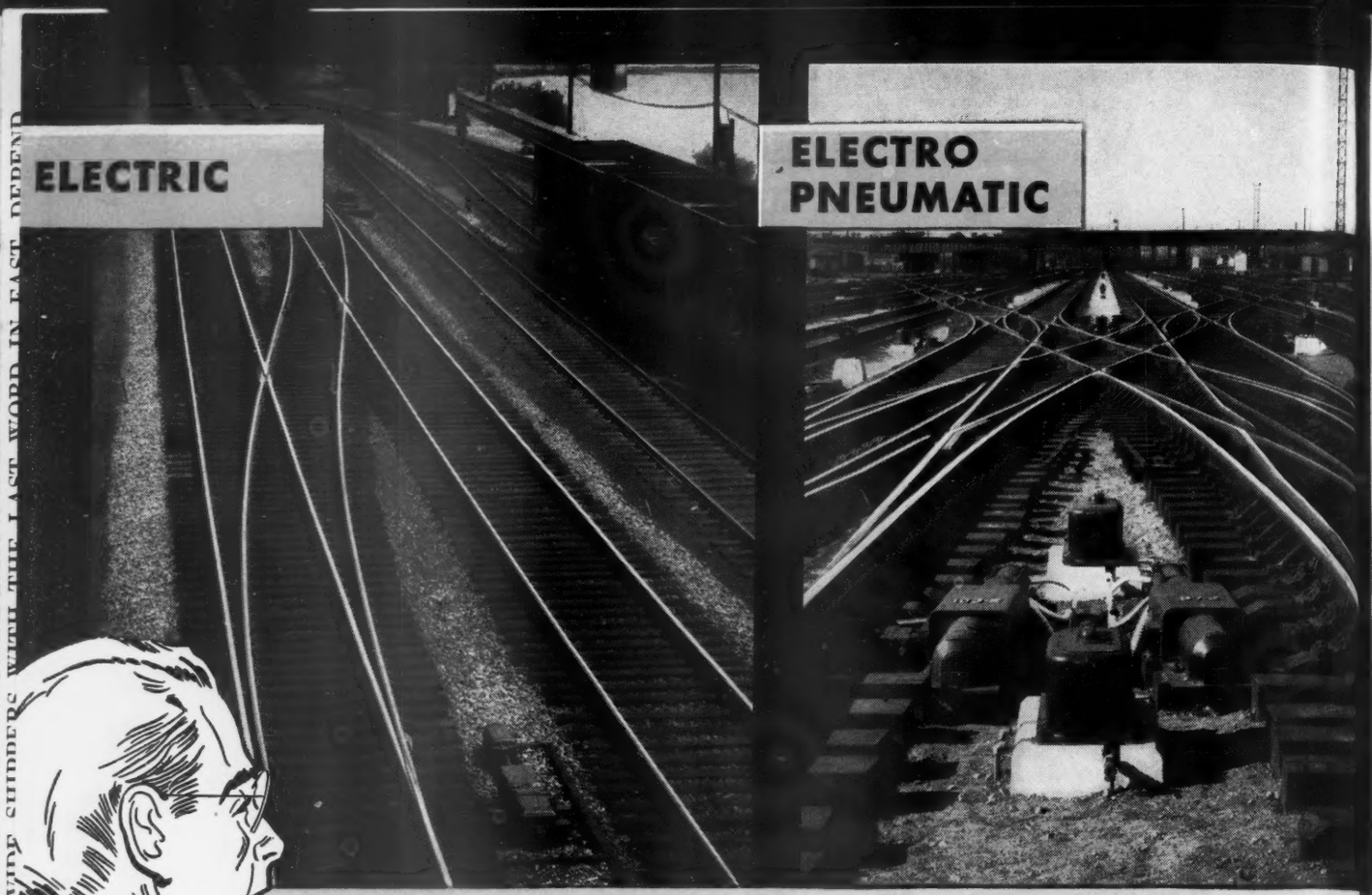

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WEEK AT A GLANCE

OFFICE METHODS GROUP PAYS ITS WAY: Recognizing the need for maximum efficiency and economy in office work, the Baltimore & Ohio, some five years ago, organized a special "office methods and procedures department," reporting directly to the president. The department, according to the signed article by B.&O. President R. B. White, on page 57, has not only done a good job, but has merited expansion. Articles to follow in subsequent issues of *Railway Age* will supplement Mr. White's general remarks with specific examples of the group's work and its results.

AFTER-DARK VISIBILITY: Some of the varied uses which railroads have found for reflective sheeting—such as "Scotchlite"—are illustrated on pages 42 and 43. The pictures are accompanied by a brief description of the material.

"JUDGE EACH CASE INDIVIDUALLY": Are the railroads paying out claim money for damage they did not cause? H. L. Cook, A.A.R. ceramics engineer, thinks they may be—particularly on such products as porcelain enameled ware, from stoves and refrigerators to sauce pans and coffee pots. His observations on the subject, including his recommendation that each claim for damage on such goods be individually considered, are summarized at page 52, where Mr. Cook also commends the "safe transit" program of the Porcelain Enamel Institute.

FOR FIGHTING FIRES: Beginning on page 54 is an illustrated description of a new fire-fighting system, which uses mechanically formed air bubbles as an extinguishing agent, and is intended especially for use at such points as Diesel fuel-oil storage installations.

LARGEST CAR ORDER: Topping all individual car orders since its own in 1948, the New York Central this week placed orders for 4,500 freight cars. The equipment market was further bolstered by commitments for 98 Diesel-electric locomotive units—61 for the North Western, 35 for the Union Pacific and 2 for the Cincinnati Union Terminal, while a number of rail orders were placed in anticipation of spring and summer track programs. For details, see the News section.

FRISCO INSTRUCTION CAR: The St. Louis-San Francisco now has in service a special car for instruction of engine and train crews and maintenance personnel in operation and servicing of motive power and cars. For an illustrated description, see page 44.

THE S. P. BITES BACK: Nicely, but very, very effectively, the Southern Pacific has bitten back at that type of air line advertising which consists of misleading and disparaging statements about railroad travel. The S.P.'s answer is in the form of a whimsical little cartoon booklet, not much bigger than a postage stamp, several pages of which are reproduced on page 51. As an example of skillful railroad advertising, this little booklet, we venture to predict, will rank right alongside the B.&M.'s famous "That's a Hell of a Way to Run a Railroad!"

WHAT KIND OF LEADERSHIP? "No obligation laid upon the railroads or any other large organization is more important than thoughtful attention to the selection, education, and continuing inspiration of competent leadership," says the opening sentence of our leading editorial, because upon such leaders, the editorial concludes, depends "the maintenance of our system of political and economic freedom." The editorial, based on a recent book by Chester I. Barnard, president of the Rockefeller Foundation, is a discussion of the qualities and training necessary to leadership, and the consequences which result from the failure or absence of proper leadership.

NEWS OF THE WEEK: The coal situation, and a round-up of its effect on railroads.—Passage by the House of H.R. 2945, which would increase parcel post rates, and reduce size of mailable packages.—Hearings on a bill to separate subsidies and air-mail pay.—Financial results for 1949.—The 1949 safety record, "best yet."—Appointment of James K. Knudson to the I.C.C.—Failure of mediation on the conductors' and trainmen's demands for a 40-hr. week in yard service and other rules changes.—Hearings on an application for transcontinental freight hauls by truck.

COMMISSIONER MITCHELL'S VIEWS: On page 58 there is reprinted a letter from Interstate Commerce Commissioner Richard F. Mitchell, in which he expresses his views as to the reasons for the long delay in settlement of the railroads' application for increased mail pay, which has been a subject of editorial comment in some of our recent issues.

SALUTE TO THE L. & N.: The Louisville & Nashville—"Old Reliable"—will celebrate next month the hundredth anniversary of the granting of the charter for its original main stem. Under the leadership of a succession of able executives, it has contributed greatly to the welfare of its territory; opening of eastern Kentucky coal fields, development of Alabama's steel industry and progress along the Gulf coast are only a few of the more striking changes which it has largely helped to bring about. And today, in common with other railroads, the skillfully managed and soundly financed L.&N. continues to provide efficient, economical, reliable transportation—self-supporting, tax-paying transportation—on 4,765 mi. of line reaching into 13 states. A centennial salute to the hundred-year-old "Old Reliable" begins on page 47.

TO PROVIDE SHIPPERS WITH THE LAST WORD IN FAST, DEPEND

ANOTHER OKONITE PLUS VALUE...

● RUBBER FILLERS are now supplied as regular practice in Okonite multi-conductor railroad signal and control cables. Results under actual service conditions — as well as from exhaustive laboratory tests — show that rubber fillers offer several important advantages over the jute fillers commonly used in these cables.

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A third important feature is the protection against distortion of conductor insulations when rubber fillers are used. Such distortion — with resultant reduction in the insulating thickness of conductors — can be a problem in multi-conductor cable construction with jute fillers. Experience shows that the use of rubber fillers — in conjunction with Okonite precision manufacturing processes — aids substantially in eliminating this problem.

Rubber fillers are only one of many quality features you'll find in long-lived Okonite wires and cables. When planning your next installation, be sure to have an Okonite engineer give you the detailed reasons why the best cable is your best policy in these days of high installation costs. Please write to The Okonite Company, Passaic, N. J.

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THE KIND OF LEADERSHIP WE NEED

No obligation laid upon the railroads or any other large organization is more important than thoughtful attention to the selection, education, and continuing inspiration of competent leadership—because sufficiently energetic and skillful leadership can overcome adversity where the mathematical chances of survival are very poor indeed. Inept or inert leadership, on the contrary, can steer a sure course to poverty and defeat through circumstances which are overwhelmingly favorable.

Dependable knowledge on the selection and training of leaders is hard to come by—unless one possesses it by instinct—because so much of the literature on the subject is either a mere compilation of the obvious or sermonizing on insufficiently established dogmas. There are some notable exceptions, however, and none more so than the writings of Chester I. Barnard, until recently president of the New Jersey Bell Telephone Company and now president of the Rockefeller Foundation. His "Functions of the Executive,"* first published in 1938, has become a classic—one might almost say *the* classic—work on the vital subject set forth in the title; and a new book by him, a collection of essays and addresses, has recently appeared under the designation, "Organization and Management."*

Both these books are mind-stretchers and idea-sparkers for anyone with managerial duties—either as a useful guide for his own conduct, or for help in the selection and training of managerial personnel. The more recent book is less comprehensive than the earlier one, and is easier to read. For that reason, it probably affords a more inviting introduction than the earlier work to a subject which is not at all simple. Barnard sets down the qualities needed for successful leadership, in their order of importance, as follows: (1) vitality and endurance; (2) decisiveness; (3) persuasiveness; (4) responsibility; (5) intellectual capacity. The author says he will "mildly defend" this order of importance, but his exposition indicates that he really believes these qualities to be almost equally essential.

The Essential Characteristics

He differentiates vitality and endurance from mere good health—because some healthy people are lazy; and some unhealthy ones are full of energy. By decisiveness he means a willingness to reach decisions—as distinguished from the not infrequent mannerism of impatience to jump at conclusions before all the pertinent information is in. Persuasiveness involves a "*sense* or understanding of the point of view, or interests" of those who must be persuaded; hence it involves the skill to choose, in each case, the instruments of persuasion most likely to be successful. Responsibility is defined by Barnard as an emotional condition of "acute dissatisfaction"

*Both books published by Harvard University Press, Cambridge, Mass.

when one fails to do what he feels he is morally bound to do, or when he does what he feels morally bound to refrain from doing. When a man demonstrates that he has such feelings, people who know him can rely upon what his action will be under given circumstances, whereas they cannot foretell the actions of those whose moral feelings are less acute.

Intellectual capacity Barnard lists last among the qualities needed for successful leadership—not because it is unimportant but because it is so frequently overemphasized at the expense of the other four qualities. The author makes the point that it is not the quantity of information a man in a position of leadership possesses which makes him successful, but the effectiveness with which he makes use of what he knows. The utilization of acquired information, Barnard believes, involves processes which are not deliberate. The purely "intellectual" type—absent-minded, non-decisive, non-persuasive—seldom makes an effective leader.

Training for Leadership

Training for leadership, aside from the least vital "intellectual" part, can only be had by experience in leading; and Barnard suggests that the most "natural" opportunities for acquiring such experience lie in "small *general* business, political party work in communities, and perhaps to a less extent, labor union leadership." Work of a specialized technical kind is inimical to the acquisition of skill in leadership, because such people "become so well grounded in 'mechanical' attitudes toward non-human resources and processes that they transfer these attitudes . . . toward men also."

A leader in a business or other organization needs training in intellectual subjects to enable him to reason logically—but he must be on his guard, because overemphasis on intellectual exercises tends to create in the subject some difficulty in dealing with human relations, which is the principal business of the executive; and human behavior is for the most part non-logical. It is no real assistance to a trainee in leadership to help him too much, because he will not be much good as a leader until he learns to seize upon, or make, his own opportunities.

Barnard asserts, with a good deal of evidence to substantiate him, that fear of loss rather than quest for profit is the dominating motive of business. If this assertion is true, he goes on to say, then "it is exceedingly important to recognize it, because it is easily demonstrated that all interests coincide on the question of losses. Men cannot be paid; they cannot even be employed, if outgo exceeds income."

He proceeds to attack the fetish of "collective bargaining"—which assumes two "sides" lined up in opposition to each other, each one using such coercive power and political strategy as it possesses against the other; and is not an attitude conducive to collaboration, which is what both "sides" must engage in if they are going to make their joint endeavor most productive. When the "collective bargainers" do see eye to eye, it is all too frequently from a "cost plus" standpoint, where "they assume that consumers will buy at prices that represent" costs which include "reasonable profits" on top of wages arrived at by bargaining. Barnard insists, on the contrary, "that all experience reveals the consumer as the controlling factor, and that he will not, indeed cannot pay prices, regardless of their 'justification,' if the value to him is less than the price. Costs have to be below value. The alternative is unemployment."

Cannot "Disregard the Individual"

Every advancement in civilization for the past 1,500 years, the author points out, has had "the effect of minimizing the individual, barring exceptional men, as an essential factor in progress." The American and French revolutions and the opening up of vast pioneer countries arrested this trend temporarily, but mass production, socialism, the organized labor movement, and the increasing domination of government over economic life have renewed the subordination of the individual. Barnard insists that any system which disregards the individual, treating him as a mere figure in a statistical table, is unreal and, hence, is doomed to failure. We shall all starve to death unless we can keep our complicated machine of economic cooperation working; and, to keep it working, managers are needed who know they are dealing with individuals—people, not amperes or B.t.u.'s—and who understand people well enough to know how to persuade them to cooperate.

The maintenance of our system of political and economic freedom "depends upon leaders strong enough to maintain their ambition under its perplexities, patient to endure its restraints, proud to be foremost among the free, humbly loyal to the humble, wise enough to seek service above the illusions of power and the futilities of fame, willing to be briefly spent in the long span of marching events."

BURNING OIL MAY BE CHEAPER

The frequently recurring coal strikes plus the recent drastic drops in the price of heavy fuel oil add up to a twofold reason for analyzing the economic feasibility of converting a portion of the existing fleet of coal-burning steam locomotives to oil burners. The price of residual fuel oil has dropped to the extent that it is now low enough in price to be competitive with coal in areas well outside of

petroleum-producing regions. It has dropped to half, and in some instances to one-third, the price it brought last winter. Where residual fuel oil formerly cost an average of nine and more cents per gallon in the Midwest, it can now be loaded on the tender for about four cents per gallon, including transportation and handling charges. Taking this figure, and a consumption ratio of approximately 125 gallons of oil to one ton of coal, it can be seen that heavy fuel oil can compete with coal on a *fuel cost basis alone* when coal is over $5 per ton.

When oil can compete with coal on a fuel cost basis alone, its use is certainly desirable — not only because of several long-recognized advantages of the oil burner over the coal burner but because of a number of new factors as well. Long locomotive runs can be made without having to clean fires en route.

The amount of fuel oil that can be carried in a given tender space will move a train further than if the same space were devoted to carrying coal. Maintenance can be reduced, and horsepower and availability increased. New advantages to using oil are chiefly centered around its abundance and regularity of supply.

Heavy fuel oil is plentiful, and all indications are that it will stay plentiful and cheap. The increasing use of the light distillate oils, such as Diesel fuel oil and home heating oil, should make heavy fuel oil continually more abundant unless present refining methods are changed far more than appears likely.

When a given amount of crude oil is refined, certain percentages are obtained of lubricants, gasoline, distillates and residual fuel oil. While these percentages can be varied to some extent to increase the yield of higher-priced components and lessen the yield of residual, there is a practical limit beyond which it is not economical to go.

Continually increasing consumption of distillate oils will, therefore, leave more and more residual to be placed on the market because more and more crude must be refined. Furthermore, it should be plentiful all year around. In summer, heating loads performed by heavy fuel oil will be at a minimum. In winter, the home-heating consumption of light oil rises, thereby causing an additional amount of residual oil to be available because more crude must be refined.

Shortages of residual fuel should not be a problem in the event of a national emergency. Such an emergency would call for tremendous use and refinement of distillate oils and gasoline, leaving vast quantities of residual oil to burn in locomotives. For railroads favorably situated, dependence on an industry controlled and dominated by one man would be avoided. Even if occasions arose where stockpiling of residual fuel oil became a necessity, the added handling required would be a smaller and less costly operation than with coal.

A TRIBUTE—AND A CHALLENGE

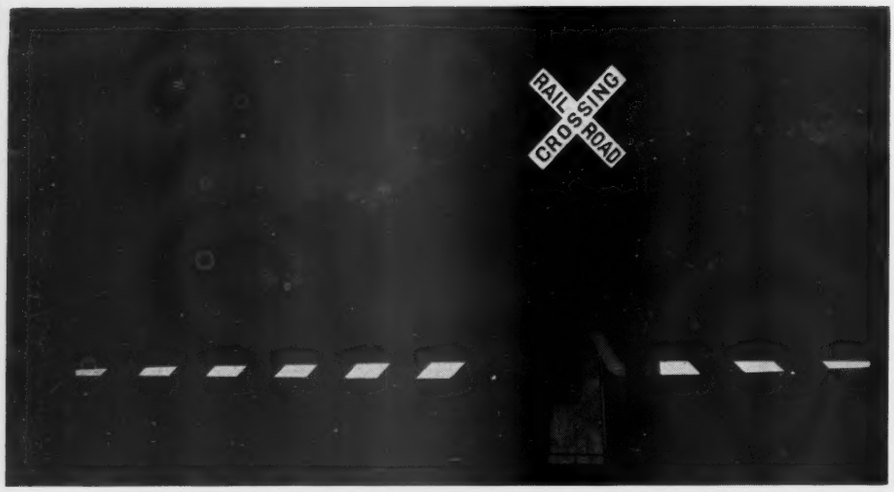
Only about 30,000,000 crossties were laid in replacements in the tracks of the Class I railroads in 1949, compared with the annual average replacements of approximately 83,000,000 ties per year in the years 1921 to 1930, inclusive — which gives some measure of the marked improvement that has taken place in the crosstie to make so striking a reduction possible. With annual crosstie renewal costs one of the largest items of railway maintenance expenditures — equal to about 12 per cent of total maintenance-of-way costs, it is easy to see what a financial problem would be presented to the railroads if their tie-renewal ratio were still as high as it was in the Twenties.

The wood crosstie, through its improvement, still stubbornly resists all competitors for its place in the track. Substitutes in droves have come and gone, many of the most likely having failed to establish their competitive merits in actual service tests. During the past ten years alone, at least 18 patents have been issued covering substitute ties of concrete, laminated wood and concrete, and metal — but the modern, preservative-treated timber crosstie still holds its own.

What has been done to the crosstie is a tribute to many railway men, wood preservers and tie producers alike, and to those railroads which early had the foresight to adopt the more costly treated tie. It is a tribute also to those who set up the carefully thought-out specifications of the American Railway Engineering Association for ties, in the interest of securing ties adequate to varying service requirements and of insuring equitable price schedules. And it is to the credit of all of these groups that they continue, through research, study and the development of new processes and methods, their efforts to prolong still further the life of ties.

Outstanding efforts in this latter respect at the moment are those of the Association of American Railroads, jointly with the National Lumber Manufacturers Association, to find means to minimize the mechanical wear of ties, particularly in the tie-plate area; the development of the Taylor-Colquitt Company to minimize the checking and splitting of ties by a vapor seasoning process; and the efforts of a number of other manufacturers to retard tie splitting and checking in service by the development of suitable coatings to keep water, ballast and frost out of splits already in ties in track. Still others are developing tie plate designs and rail fastenings to minimize the abuse of ties. By these efforts the mortality rate of ties is certain to be further reduced.

All of these efforts should be encouraged and supported. At the same time, nothing should be permitted to lower the standards of tie quality, size, treatment, inspection and installation to the extent that it would set back the progress already made to prolong the life of ties and reduce renewal costs.



Left—Reflecting sheeting applied to crossing gates and crossbuck signs makes them stand out in darkness. In addition to providing added protection for the motorist, damage to gates has been minimized where the reflective material has been applied. Below—Reflectorizing horizontal lines accent the streamlining of Diesel locomotives, makes them brightly visible to motorists at grade crossings, and advertises the railroad

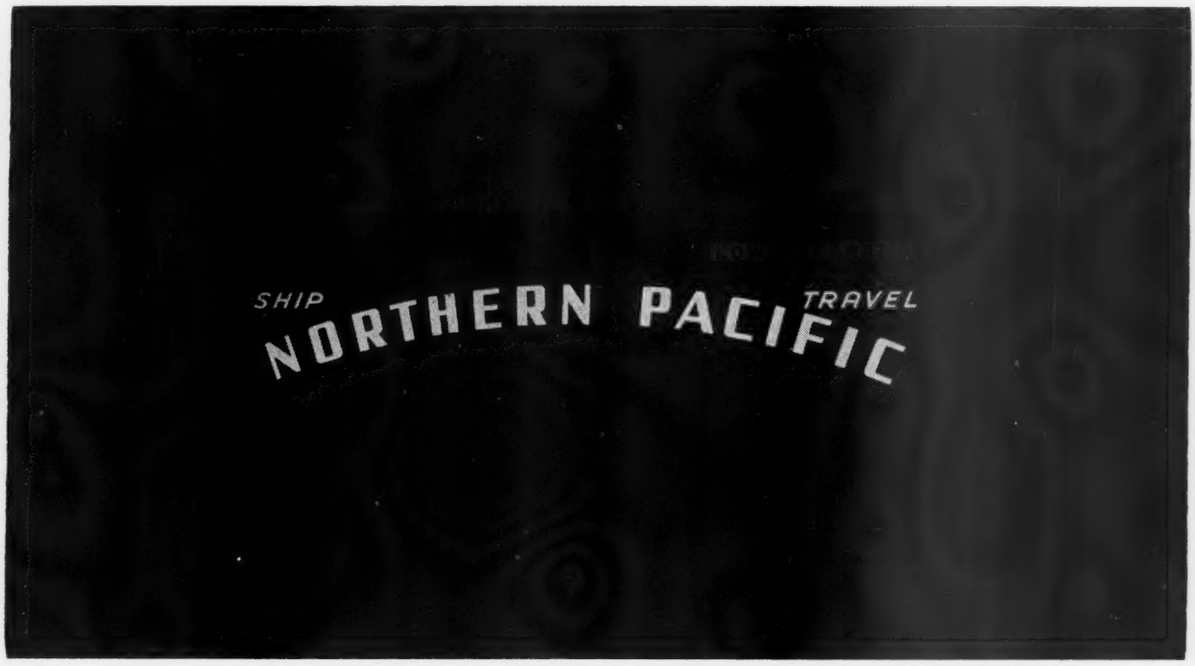
RAILROADS FIND NEW USES FOR REFLECTIVE MATERIAL

Oncoming highway traffic provides a warning for itself. The stop sign and crossbuck, which are treated with reflective sheeting, stand out sharply in contrast to the white paint on the vertical pole

Reflective sheeting is finding a number of applications in the railroad field, particularly for grade crossing protection, for wayside signs and switch targets, and for advertising purposes. The material used is an adhesive-coated sheeting that, in darkness, reflects the daylight appearance of the object to which it is affixed. "Scotchlite," a brand of reflective sheeting produced by the Minnesota Mining & Manufacturing Co. of St. Paul, Minn., is designed to reflect light up to 225 times better than white paint. It is manufactured in 17 colors, and is sold in roll form. Surfaces to which it is applied return light directly to the source—for example, automobile headlights or a locomotive headlight—with a minimum of diffusion to either side. Scotchlite consists of a plastic, coated with microscopic-sized glass spheres--30,000 to the square inch. Each sphere serves as a tiny lens. Light is reflected off the plastic backing and passes back through the lenses.

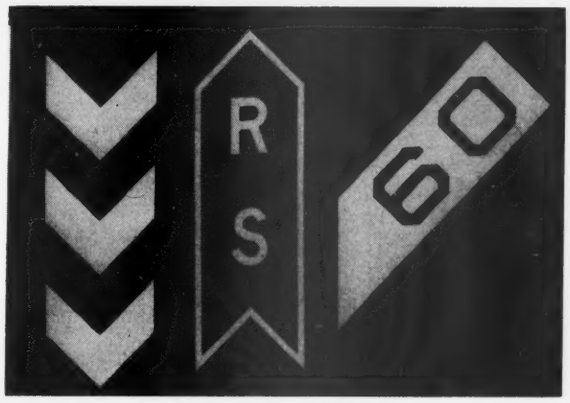
The two most common varieties of reflective sheeting are the wide-angle type, which reflects light beams received from any angle up to 85 deg. to either side of head on, and the smooth-surface type, which reflects light received up to 30 deg. from either side of head on.

In addition to the more common applications of reflective sheeting—to wayside signs, switch targets and highway crossing protection signs—a number of railroads are experimenting with Scotchlite on semaphore blades and crossing gates, and for identification markings on freight cars, switch and road locomotives, cabooses, passenger cars and bridges.

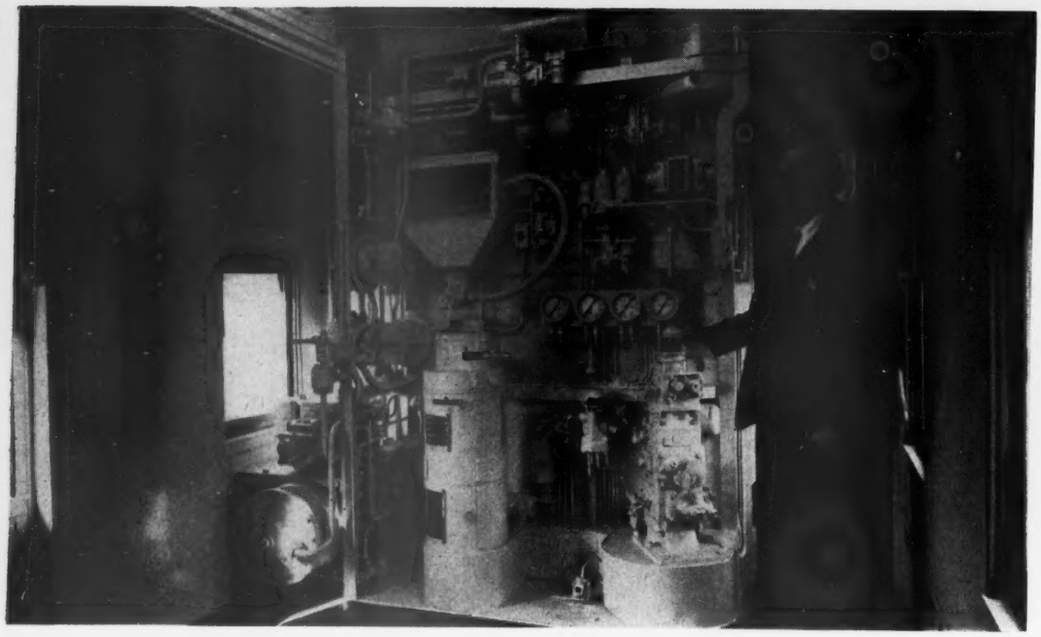


Above—Scotchlite applied to an overpass not only is a safety factor, but advertises the railroad

Right—A few of the wayside signs to which Scotchlite is applied



Below—Reflective markings on freight cars stand out at highway crossings, or wherever there is light to be reflected



Facing page and left—Two views of the instruction equipment in the instrument end of the car showing the indicating instruments and controls on the side walls

St. Louis-San Francisco Instruction Car

Mobile unit is used for the instruction of engine and train crews and maintenance personnel in operation and servicing of motive power and cars

The St. Louis-San Francisco now has in service a combination car, known as No. 50, which is used for instructing enginemen, trainmen, shopmen, carmen, electricians and others in the operation and maintenance of the Diesel locomotive, electro-pneumatic and conventional air brakes and other locomotive and car appliances.

The car was originally an all-steel postal car, and was rebuilt and converted into the instruction car at the Frisco coach shop at Springfield, Mo. It is reinforced throughout so that it can be handled in any location in passenger and freight trains.

The interior of the car is divided into three sections, the observation and test room, the sleeping section and the instruction or class room.

The observation and test room contains the test rack or pedestal on which the test instruments are mounted. Information gathered from the use of the instruments is passed to enginemen, trainmen and others interested, to show them where and how the handling of the train could have been improved if any rough handling occurred.

The sleeping section consists of two staterooms with connecting bathroom.

The instruction or class room which is used for lectures and examinations has space for 36 folding chairs which are stored in a locker when not in use. Six dining-car-type side tables are used by students when taking examinations. A blackboard is available for chalk talks.

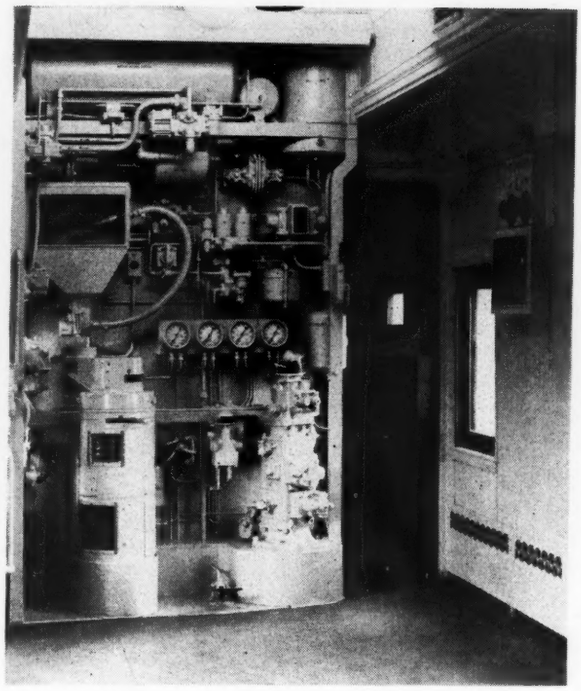
A motion picture screen is used with a projector to show slides, motion pictures and diagram prints in colors. Lectures with the use of the projector are limited only by the size of the library on hand and can be extended to cover any subject desired. Located on the wall and floor at the end of instruction or classroom adjacent to the sleeping section is the 24-RL passenger Diesel-locomotive brake equipment and the HSC car equipment.

Near the end of the car is a hot-water boiler for heating the car when in freight train operation, as well as a kitchenette with gas stove, electric coffee maker, refrigerator, sink, water cooler and kitchen cabinet complete with utensils and dishes.

A crew of eight, working in shifts, can be comfortably cared for when making long test trips.

Recording Equipment

The test recording equipment consists of three Esterline-Angus recording instruments. One of these records brake-pipe pressure, another brake-cylinder pressure and the third, miles per hour. The speed recorder is in reality a recording voltmeter calibrated in m.p.h. rather than in volts. The energy for operating the speed recorder is derived from an Esterline-Angus permanent-field generator driven by a Valve Pilot contact-wheel



assembly with its 11.25-in. steel wheel resting on the tread of one of the car wheels. The output shaft of the contact-wheel assembly is geared to the generator through a 9/16-in. wire-wound flexible steel shaft in a waterproof casing.

Test Equipment

So that the speed recorder will register regardless of the direction in which the car is moving, a directional relay is employed to reverse the polarity of the circuit leading from the generator to the recorder.

Each recording instrument is equipped with two chronograph pens. The left-hand pen on all three instruments records time intervals, i.e., seconds, or one-half seconds as desired. The right-hand pen on all instruments records distance that the car moves, i.e., once for each 52.8 ft. or 100 times per mile.

A photo-electric cell is employed to obtain electric impulses each half-second to energize the time interval recording pens. Directed on the light-sensitive plate in the photo-electric cell is a small beam of light from a small lamp such as is used in a regular pencil flash light.

The beam of light is interrupted each half-second by a small target one-thousandth of an inch thick, which is fastened to the escapement rack of an eight-day spring-wound clock movement which has a beat of one-half second; thus the photo-electric cell is excited once every half-second. The electric impulses from the cell are then passed through electronic amplifier tubes in order to obtain a current of sufficient strength to operate the time interval recording pens.

If it is desired to have the pens record seconds instead of half seconds, a selector switch may be operated which starts a ratchet relay that blanks out each alternate half-second impulse. This relay is necessary since the natural beat of the clock escapement is one-half second and cannot be changed.

Previous experiments had shown that mechanically operated contacts were not satisfactory to obtain time interval recordings, due to friction and the impossibility of keeping contact springs in adjustment. Therefore the electronic method was employed.

The other set of pens which record distance traveled by the car are actuated by electric impulses from a rotating contact-making device geared to the same shaft that drives the speed-recorder generator. When the car moves 52.8 ft. the pens make a mark; therefore, for every 100 marks the car has moved one mile.

Mounted on the control panel above the recording instruments are two magnetically operated Veeder counters. If desired, one of these counters can be cut in with the time-interval pens, making it possible to read any elapsed time directly from the counter. The other counter may be cut in with the distance-recording pens making it possible to observe distances traveled directly from the counter.

By manipulating a switch the distance-recording pens can be switched to a portable push button so that mile-post locations may be recorded instead of decimals of a mile.

Alternating current for operating the electronic devices is generated by a rotary inverter located under the car.

Automatic Testing of Brakes

The recording-instrument charts may be driven either by clock movements within the instruments or by electric motors as desired. The motors are mounted on the outside of the instruments and are connected to the chart driving mechanisms by means of electrically operated clutches.

The test equipment may be set for automatic operation so that the charts will not move except during brake applications. By manipulating the proper switches on the control panel the chart-drive motors, time-interval pens and the distance recording pens may be placed on automatic control. When operating automatically all of the above mentioned devices are static until 2 lb. of brake-cylinder pressure comes on when a sensitive pressure switch closes its contact which starts all of the recording devices and they remain in operation until the brake-cylinder pressure falls to 2 lb.

When using the automatic control it is possible to use fast chart speed at any time without wasting paper during periods between brake applications.

Besides the Esterline-Angus recording instruments, the test rack is equipped with two Savage impact records, one freight-train type and one passenger-train type, to record intensity of shocks. By co-ordinating time that shocks occur with time shown on the brake-cylinder pressure recorder, it can be determined whether or not the brake is used at the time of the shock.

The operation of the 24-RL and HSC brake equipment is identical with road train conditions, the response being the same as that which follows similar manipulations of the brake on the Diesel-electric locomotives.

For standing train tests, Car. No. 50 can be used in place of the locomotive to operate either the conven-

tional automatic brakes or the straight-air electro-pneumatic brakes. Any demonstration or test made can be recorded on instruments located in the test section.

When the equipment in this car is used in place of the locomotive, the shop or yard air pressure is used for supply or main-reservoir pressure, and it is kept reasonably clean and dry by passing it through a filter, which is part of the air storage system under the car body. This eliminates the air compressor and the usual vibrations through the car body that accompanies its use.

An independent brake pipeline is run from the D S E-24-H brake valve in the car to one end of the car where it is fitted with a 1¼-in. cutout cock and special length Goodall semi-metallic armored hose. For train testing, this hose is coupled to the brake pipe on the adjacent car. If the train is coupled to the opposite end of the instruction car, the regular brake pipe is utilized to run through to the train. This method insures against mistakes in the event the special hose is not disconnected at the finish of a test or demonstration. Until the special armored hose is disconnected, the regular brake pipe cannot be coupled through for required train tests, should the car be placed in a train.

If a record or test is desired of the operation of the straight-air electro-pneumatic brake in train service the car may be placed anywhere in a train. The equipment in the car will then function as an HSC car brake instead of the UC valve under the car body, normally used in passenger service. The air storage system is now used as supply reservoirs and is charged through the dead-engine feature of the D-24 control valve, which now functions as a D-22-BR control valve.

Included with the 24-RL and HSC equipments are the train air signal and water raising systems and the New York Air Brake Company's car sanders, which operate in the same manner as the installation on the streamline cars, i.e., the rail is sanded only under the particular car or car truck on which the P-3 Decelostat action occurs. When the rail condition is conducive to wheel sliding and the AP Decelostat system momentarily releases the brake, the sander valve, in response to the Decelostat action, immediately starts sanding the rail for a predetermined number of seconds. Every pair of wheels under the streamline cars is protected from wheel sliding by Westinghouse AP Decelostat equipment.

Rheostats controlling the voltage from the car batteries are used to stimulate the action of the speed generator control of the low, medium and high magnets of the FS 1864 relay valve.

Current at 64 volts, from the car batteries, operates the 21-B magnet valve, master controller, overspeed magnet and back-up valve.

The piping between the various operating valves are intentionally exposed for study and instruction purposes. Certain critical pipes are equipped with drain and cutout cocks to simulate leaking and broken pipes and method of repairs.

The features included in the installation are:

1—Controlled service applications for long trains.
2—Self-lapping independent brake valve.
3—Service safety control (deadman's) feature.
4—Overspeed control—application and suppression.
5—Split-reduction service application under safety and overspeed control.
6—Controlled emergency application on long trains.
7—Manual and automatic emergency sanding.
8—Automatic power cut-off in emergency and in safety and overspeed applications.
9—Electro-pneumatic straight-air applications.
10—Speed-governor control.
11—Decelostat or wheel-slip control on cars.
12—Rail sanding following decelostat action.
13—Water raising system on cars.
14—Train air signal system.
15—Electro-pneumatic brake applications from rear car.

For instruction purposes to trainmen and carmen, both styles of signal-system car discharge valves are installed and operative. Also operative are the B-3-A, B-3-B and ¾-in cutout-cock style emergency valves, formerly called conductor's valves.

The Operative Brakes

The operative brakes under the body of the car are the UC-2 14-in. by 12-in. equipment for passenger service; for freight service standard K-2 and AB equipments are used. The brake rigging is so arranged that one 10-in. freight cylinder operates through the tie rod of one of the 14-in. brake cylinders to apply the brake on one truck. With this arrangement one slack adjuster only is necessary for each end of the car and it is mounted on the 14-in. by 12-in. cylinders. The adjuster works only when passenger brakes are used.

The brake pipe cutout cocks to the UC valve and to the K and AB valves are alternately closed and opened by one movement of a connecting angle bar to which the handles of the cutout cocks are pinned. When the UC equipment is cut in, the K-2 and AB equipments are cut out and their reservoirs automatically drained. When the position of the angle bar is reversed to cut in the freight brakes, the K-2 and AB reservoir drains are closed and the UC brake is cut out and its reservoirs drained. A target attached to the angle bar uncovers a badge plate reading "freight brake cut in," when the angle bar is positioned for freight service, and uncovers a badge plate reading "passenger brake cut in," when the bar is positioned for passenger service.

The braking ratio of the car for passenger service is 85 per cent based on 60 lb. cylinder pressure, and 35 per cent on 50 lb. for freight service.

A group of 3½-in. single pointer test gages in the classroom section are connected to the auxiliary and brake cylinders of the K brake, the quick action chamber, auxiliary and emergency reservoir and brake cylinder of the AB brake, and to the quick action chamber, quick action closing chamber, auxiliary service and emergency reservoir and brake cylinders of the UC equipment. The brake-pipe and brake-cylinder pressure from the locomotive is connected to the 5-in. duplex test gage in the center of the above mentioned 3½-in. gages.

There are five pipe lines running from one end of the car to the other. They are the brake pipe, signal pipe, straight-air pipe, brake-cylinder pipe for the locomotive brake-cylinder connection and ⅜-in. steam pipe for connection to the locomotive steam chest. A 500-lb. gage in this pipe line is located in the observation end of the car.

While the air brake is arranged for separate operation for each truck, the power hand brakes on each end of the car operate the brakes on both trucks.

SALUTING THE LOUISVILLE & NASHVILLE— "Old Reliable" Rounds Out 100 Years

The Louisville & Nashville is, on March 5, celebrating the 100th anniversary of the granting of its charter. It looks back over a full century of useful and dignified existence—without a change of name or the default of a single debt. But the railroad might, if it wished, hark back to the day, 120 years ago, when, on January 27, 1830, there was chartered the Lexington & Ohio, whose iron strap rails, laid on longitudinal limestone sills, were opened to horse-drawn rolling stock for 29 tortuous miles between Lexington and Frankfort, Ky., just four years later. Alternatively, it can trace the branches of its corporate bloodstream seven days further back to January 20, 1830, when there was chartered the five-mile Ponchartrain railroad in New Orleans, La. Opened for traffic in April of the following year, this property operated continuously until its abandonment in 1935.

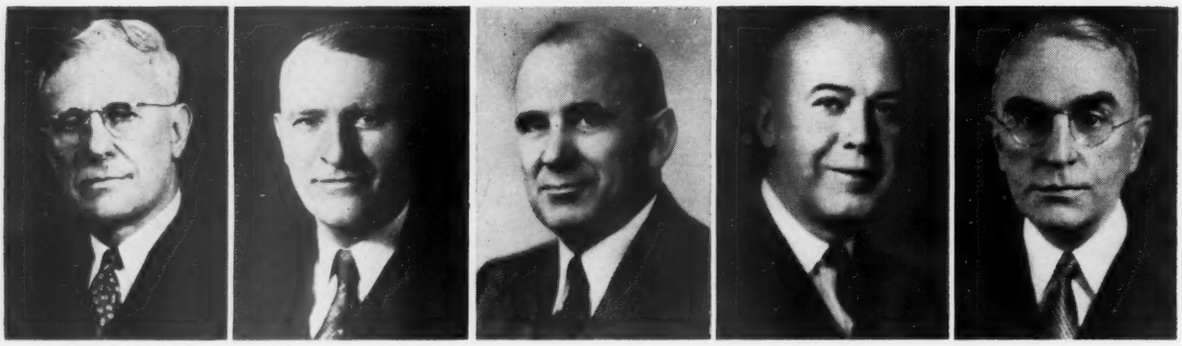
The 190-mi. line between Louisville, Ky., and Nashville, Tenn., the centenary of which *Railway Age* now salutes, was, when opened for through service on October 27, 1859, one of the longest railroads in existence. Its rugged terrain bristled with engineering difficulties, and its 1,200-ft. bridge over the Green river—longest iron bridge in the country when it was opened—and the tunnel and approaches at Muldraugh's Hill were sources of great pride to the management. The original line was laid for the most part with 54-lb. rail, affixed with 16 spikes per length to white oak, cedar or black locust ties, spaced 2,700 to the mile. Its builders worked to strict specifications, including an 18-ft. width at grade for all rock excavations and slopes cut to one-in-five. Ballast of gravel or broken stone was spread one foot thick over a space 10 feet wide.

When civil war came the young railroad found itself bridging the Confederacy to the North. While Tennessee, at the L. & N.'s southern end, joined the secession, Kentucky remained neutral, a position which the railroad's management itself did its best to maintain. The road became the greatest single path of supplies for the South, which, despite blockades and patriotic exhortation, flowed from private interests in the North to the Confederacy. L. & N. revenues boomed as a result and formed an umbrella for the heavy cost of repairing the railroad after numerous raids.

The collapse of the South's economy after the conflict consigned to the bargain counter many roads which the wealthier L. & N. used to expand itself in the right places. Early in 1871, it bought trackage which extended its main stem south from Nashville to Montgomery, Ala., giving access to the rich steel-making resources of the Birmingham area—Pittsburgh of the South. The year 1880 saw the further extension of the road to important Gulf ports at Mobile, Ala., and New Orleans, La., by purchase or lease of existing properties. The line along the coast is noted for its long stretches of piling and trestles, where, to defeat the wood-eating teredo, the L. & N., early in the Eighties, made one of the first installations of creosoted timber in the country.

The decade of the Eighties saw many other important purchases, including, in 1880, the lines form-

"THE OLD RELIABLE'S" FIVE VICE-PRESIDENTS



Tilford—Executive | Morton—Operations | Dent—Traffic | McDonald—Finance | Smith—Law

ing the St. Louis-Nashville route of the system, and, in 1881, the Louisville, Cincinnati & Lexington, which provided a line between Louisville and Cincinnati.

Important new construction to the east further extended, in 1882, a line from the original main stem to a point north of Corbin, Ky., which made it possible for the company to penetrate still further eastward into the rich Southeastern Kentucky coal fields. Meanwhile, in 1886, with other southern roads, the L. & N. changed the gage of more than 2,000 miles of line from five feet to the compromise width of four feet, nine inches (on which standard-gage rolling stock would run), its forces changing over most important trackage on a single day—Sunday, May 30. Thereafter standard gage was introduced gradually.

To handle coal from the new Cumberland Valley field direct to northern connections there was needed a direct route north from Corbin to Cincinnati, which was provided by the purchase of the Kentucky Central in 1891. This was but the first in a series of steps to complete a line through from Cincinnati to Atlanta, Ga.—a project consummated in February, 1905.

In 1902 there occurred the notorious cornering of L. & N. stock by "Bet-a-Million" Gates and Edwin Hawley, which *coup* was followed by purchase of the controlling shares by J. P. Morgan—at a high price—and sale thereof to the Atlantic Coast Line, which company continues to control the "Old Reliable," the L. & N. remaining, however, under separate management as an independently operated property.

Like many other roads in the country, the L. & N. spent large sums in the early 1900's rebuilding important lines where grades and curvature hindered efficient train operation. Millions were spent relocating completely the "scenic railway" between Decatur and Birmingham. Some 60 miles of the Cincinnati-Atlanta line were regraded and partially double-tracked in 1908, and 97 miles of the Guthrie (Ky.)-Evansville route were given a grade reduction treatment.

Unlike most roads, the L. & N. also completed in the Twentieth Century some of the most extensive new line work in its history.

Further refinements of existing lines were made in profusion during the busy Twenties. Tunnels and grades were eliminated (including the old Muldraugh's Hill bore), important bottlenecks double-tracked, and bridges able to sustain heavy power substituted for weaker originals. An entirely new route was opened as late as 1927, when a 14-mi. connection and trackage rights joined the L. & N. to the Clinchfield. All in all, the L. & N. spent $175 million in improvements—chiefly on fixed properties—during the period 1920-1927.

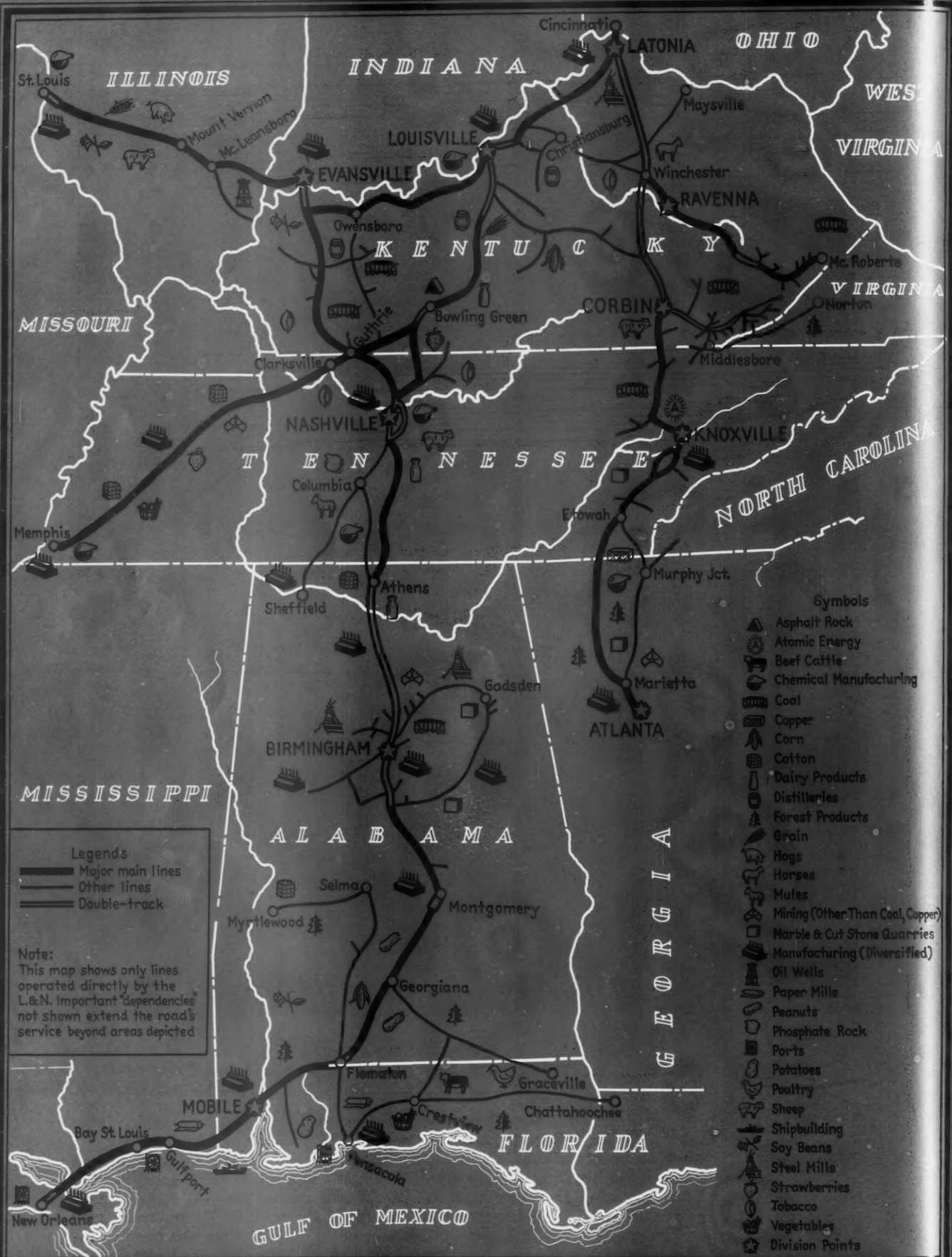
The L. & N. continues to invest large sums in extension of line to tap new coal fields in a difficult and rugged terrain

Even in the depression, the road spent relatively large sums for improvements, including the great bridges over the Ohio near Evansville, Ind., and over the Tennessee at Danville, Tenn., and participation in the Cincinnati Union Terminal project.

The present-day Louisville & Nashville owns and operates a total of 4,765 miles of line in 13 states, but its influence extends considerably further through the control of a number of important independently operated affiliates. These include the 1,051-mi. Nashville, Chattanooga & St. Louis (purchased in 1880); the 551-mi. Georgia railroad and "dependencies" (leased jointly with the Coast Line since 1924); and the 316-mi. Clinchfield (leased jointly with the A. C. L. since 1924). Incorporation of the largest constituent property of the Georgia dates back to 1833, while "The Dixie Line" celebrated its centennial in 1945.

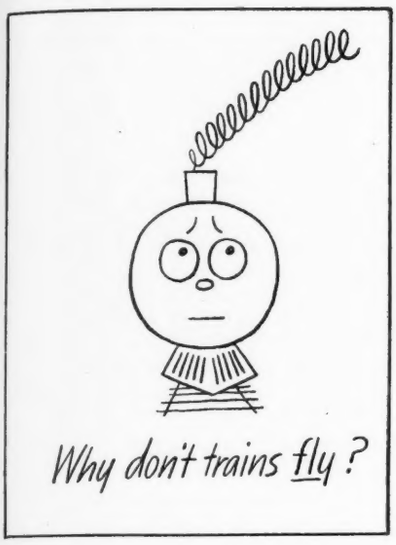
JAMES BRENTS HILL, PRESIDENT OF THE LOUISVILLE & NASHVILLE

Ever since he learned telegraphy as a boy and was scolded for "hopping trains," Mr. Hill has loved railroads and railroaders. At 48 he became president of the L. & N.-affiliated N. C. & St. L. and found his *forte* in handling people. It was typical that, shortly after assuming the presidency of the "Old Reliable" in 1934, he should call the "first family rally" of more than 20,000 employees and their families in Louisville's big armory. Since then the road's employees' magazine has published 178 of his celebrated letters "to fellow employes," the frankness and profundity of which have inspired many an officer on railroads all over the country.

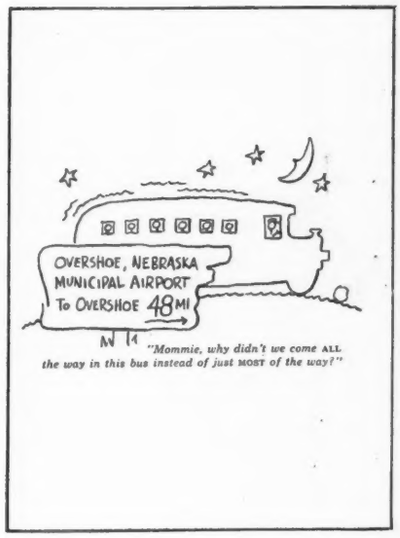


For a full century "THE OLD RELIABLE" has sparked and sustained the economy of thirteen southern states

THE SOUTHERN PACIFIC BITES BACK—in a nice way—AT THE COMPETITION



Astronomical Airways gets there so much sooner than trains can, it gives air passengers lots of time to find their way in from the airport. They need lots of time. As a passenger says, "Flying is a lovely way to get around in a hurry if you've got plenty of time—and also the bus fare."



"Mommie, why didn't we come ALL *the way in this bus instead of just* MOST *of the way?"*

FILBERT WEEMS proved that free snacks on airplanes are free. "They gave me a souffle," said Filbert. "A few minutes later we hit a series of air pockets. I lost my souffle. But what the heck, it didn't cost me anything. What I'm worrying about is the breakfast I *paid for* at the airport."

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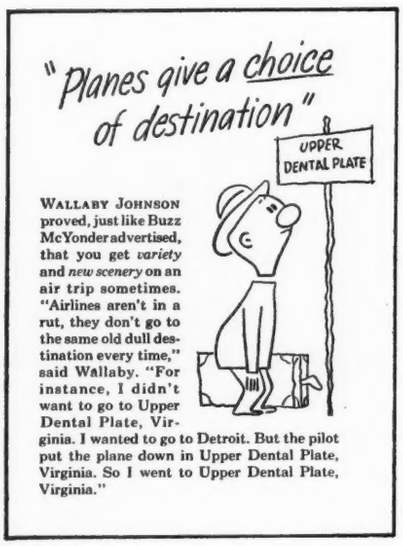
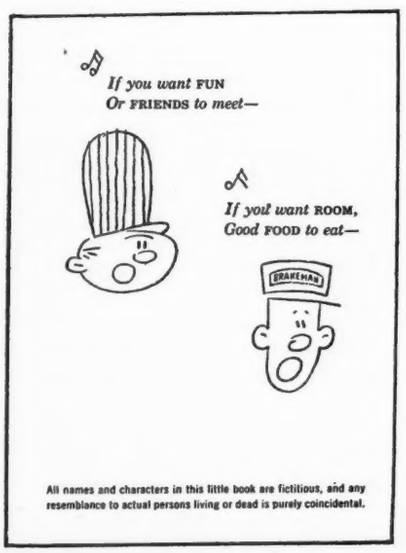


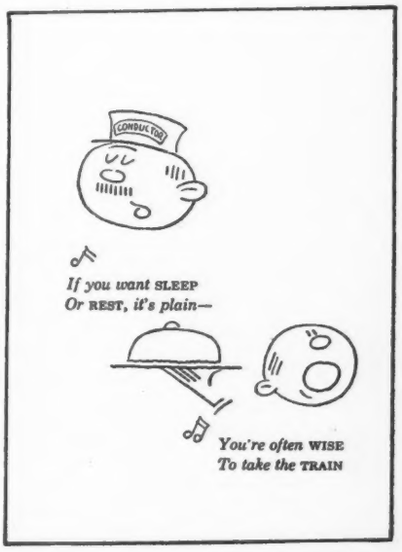
WALLABY JOHNSON proved, just like Buzz McYonder advertised, that you get *variety* and *new scenery* on an air trip sometimes. "Airlines aren't in a rut, they don't go to the same old dull destination every time," said Wallaby. "For instance, I didn't want to go to Upper Dental Plate, Virginia. I wanted to go to Detroit. But the pilot put the plane down in Upper Dental Plate, Virginia. So I went to Upper Dental Plate, Virginia."

MISS VIOLA MURPLE says, "I have agoraphobia and can't STAND trains. All those AISLES to walk and stretch one's legs in, those diners, tavern cars and stuff you have fun in—too much *space* on trains, it frightens me. What I like," continued Miss Murple dreamily, "is the cozy feeling of being STRAPPED IN. It helps my figure."

"It's the PRIVACY I love in airplanes," states Wilbur G. Slipstream. "I'm the pilot. I get a room to myself, just like on a train . . . The only other private room is the one in the tail of the plane and you have to line up for that one."



All names and characters in this little book are fictitious, and any resemblance to actual persons living or dead is purely coincidental.



A crated electric range going through the impact test that is part of the Porcelain Enamel Institute's "safe transit" program, which is being actively supported by the A.A.R. Mr. Cook suggested that all member carriers get behind it, too, since it is an entirely voluntary effort by an industry to help itself, and the carriers, incidentally. The program, he said, was helping the manufacturers find out things about their products which they had not known before, and not infrequently was helping them to cut the costs of their packaging

Enameled Ware Producers' Defects Showing Up In Railroad Claim Bill

A.A.R. ceramics engineer tells claims conference to judge each case individually—Praises Porcelain Enamel Institute's "safe transit" program

H. L. Cook, ceramics engineer, Freight Claim Division, A.A.R., speaks from experience when he advises the railroads on loss and damage to porcelain enameled ware. Graduated from the University of Illinois with the degree of ceramics engineer in 1923, he went into the porcelain enameledware industry the next year, and stayed with it until late in 1949 when he came to the A.A.R. During that time Mr. Cook spent some time in sales work, selling the basic "frit," though the greater part of his time was spent in manufacturing, in which he was associated for long periods with both Norge and Frigidaire.

On January 31, the New York Terminal Committee of the Eastern Claim Conference, composed mainly of field men and loss and damage inspectors, conducted an educational meeting held at the Pennsylvania Railroad Y. M. C. A. in New York—on the subject of damage to porcelain enameled ware. An outstanding feature of this meeting was the discussion of manufacturers' defects, by H. L. Cook, ceramics engineer of the Freight Claim Division, Association of American Railroads, in which he made it clear that the railroads were paying claim money for damage not caused by them. This meeting was not so much a prevention session as one to help claims men decide in what cases there was carrier liability in damage claims on this product.

Mr. Cook divided enameled ware into two general categories, the first made up of stoves, refrigerators, wash tubs, and other large pieces, while the second took in such utensils as dish pans, coffee pots and sauce pans. A knowledge of the manufacturing process, he said, was basic to any understanding of damage resulting from faulty manufacture. He explained that porcelain enamel ware is a product in which a glass is fused to sheet steel or cast iron. First applied to the metal is a ground coat, among whose ingredients are cobalt, nickel and manganese. It is this ground coat—blue-black in color—which binds the white or gray "frit" to the steel or cast iron. These two coats are applied to the steel by spraying or dipping, and then baked in furnaces whose temperatures may run as high as 2,600 deg. F. Much "damage" for which claims are filed he said, is a result of a poor bond between the enamel and the steel.

Before going on to a discussion of specific defects, and the manner of detecting them, Mr. Cook spoke in praise of the "safe transit" program of the Porcelain Enamel Institute, an entirely voluntary effort on the part of some of the members of that group to help cut the damage loss to their products. Not all members

of the institute are participating, Mr. Cook said, and he urged carriers to increase their efforts to persuade those firms not participating to do so.

Automatic "Pop-Off"

In his discussion of what he termed "manufacturers' defects" in porcelain ware, Mr. Cook said that chipping of enamel from the base metal is responsible for most claims. This can be caused by blows, but frequently results from a production defect. There is, for example, "pop-off" of the enamel coat. This may be automatic or it can be caused by distortion of the metal base, occurring either at the producer's plant or as a result of shocks in transit. Automatic "pop-off" occurs most frequently at radii (e.g., on the flanges of stove panels) and generally there will be more than one such "pop-off" spot in the area. The spots are identifiable, generally, by their smoothness, i.e., the break with the rest of the porcelain is clean. Generally the examiner can pick such spots with a finger nail and come up with no enamel under the nail. The distortion which causes "pop-off" may come from deforming a panel in the stamping, or when the panels are bolted to each other or to the frame members of the unit. Also, metal fatigue at radii (from bending) sometimes will cause hairline cracks and subsequent chipping under very light blows or from temperature changes.

Other Manufacturing Defects

Chipping, where there is no sign of a blow or distortion, is a manufacturer's defect caused by poor bond between the porcelain and the metal. Mr. Cook took the position that under such circumstances there is no carrier liability. When "popping" occurs, he said, the bright metal is showing, and unless there are unmistakable signs of carrier mishandling which might cause distortion, this is a good indication of a poor bond, which is not the fault of the carrier. He added that sometimes the ground coat may be thin and cindered, making for a poor bond between porcelain and metal. When this condition is evident where porcelain has been chipped away, carrier liability for damage should not be admitted, he insisted.

Years ago, Mr. Cook continued, enamel was put on steel to thicknesses of 0.030 to 0.040 in. Today the coating may be as thin as 0.004 in. The thicker the enamel the more susceptible it is to shock damage and "popping." This is because the stresses in the enamel are directly proportional to thickness. Since the dark base coat is first applied to the metal by dipping, before the light colored surface coat, corners of panels may have "globs" of this base coat which are thicker than at other places on the surface. When the top enamel is applied and baked on, the thickness at that point makes it particularly vulnerable both to "popping" and to chipping after a light blow. Thicknesses of over 0.02 in., the speaker declared, make the product much too fragile and, unless there are unmistakable signs of bad handling on the carriers' part he suggested that they should not accept responsibility for the damage.

The same defects are found in most of the larger enameled ware products, he went on. He cautioned claims men to be on the lookout for hairline cracks around the sump holes of washers. Almost without exception, he said, these are "producer's defects." If they show up in a large percentage of cases on any porcelain ware, hairline cracks are not the fault of the carrier, he declared.

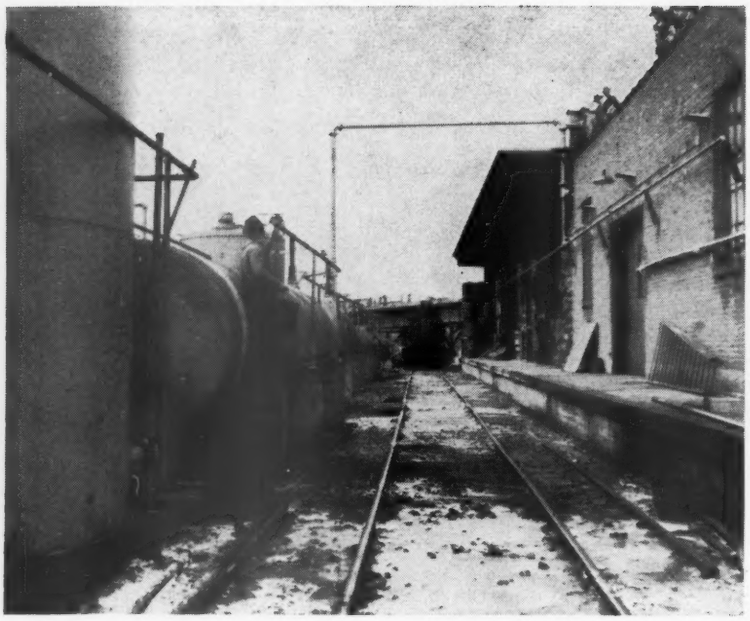
Poor Construction

Another characteristic of many stoves and ranges, as well as other porcelain products, such as washing machines, Mr. Cook pointed out, is poor construction. Many almost literally fall apart in transit. One railroad man was reported as having picked up 76 nuts and bolts from the floor of one carload of stoves. Carriers are being blamed for rough handling where slipshod manufacture is at fault. It was brought out that many of these devices are made in factories where the incentive plan is in effect, with emphasis on quantity rather than quality. One conferee, a loss and damage prevention man, said that a change in production methods might help eliminate some of this difficulty. He told of persuading one producer to use a control clutch electric wrench, set so that it ceased tightening nuts after a predetermined pressure had been reached. This satisfied everyone, he said, for it increased production while actually making the product better. Such stoves, it was brought out, seldom are well constructed in any particular, frequently being built around the flimsiest of frames which will twist under the lightest shocks. Then, if they are not well packaged, blocked and braced and well handled, they still may arrive at destination damaged—despite well-tightened nuts and bolts. This damage generally consists of chips around the bolt holes due to the various members moving under impact, or "pop" on panels.

Pots and Pans

When the subject of utensils came up, Mr. Cook said that they generally show defects of the types characteristic of the larger enameled ware articles. In addition, he said, there is a fundamental weakness of many utensils that will bear watching, i.e., welded handles. Only a mild pressure on these handles will cause chipping in the area of the weld, he said, as the weld because of its hardness does not permit a really good bond with the porcelain. This is one of the places where chipping occurs most frequently, and Mr. Cook suggested real examination before admitting carrier responsibility for damage. Shocks or blows in transit, he concluded, could be responsible for some damage, but since the utensil manufacturers had not seen fit to cooperate with the P. E. I. safe transit program, little was known about just what it was reasonable to expect from such articles in standing up under shocks. In some cases, there was little doubt, he said, that poor packaging was responsible for some of the damage, but each case must be judged individually.

It was brought out that while the manufacturers of utensils have published a booklet saying that certain variations in the products do not impair their serviceability, consignees still are refusing to accept articles with those variations, and filing claims against railroads. There was general agreement that such claims should not be entertained.



Left—Full-scale test of the system was started by applying heat to one of the heat actuated devices

Facing page (left)—Within 18 sec. foam was discharging from all nozzles in the system

Facing page (right)—After the system had been in operation two minutes in the full-scale test, the track and immediate vicinity were almost completely covered

Automatic Foam Blanket for Fire Protection

Mechanically-formed air bubbles are the extinguishing agent in new system designed especially for use at such points as Diesel fuel-oil storage installations

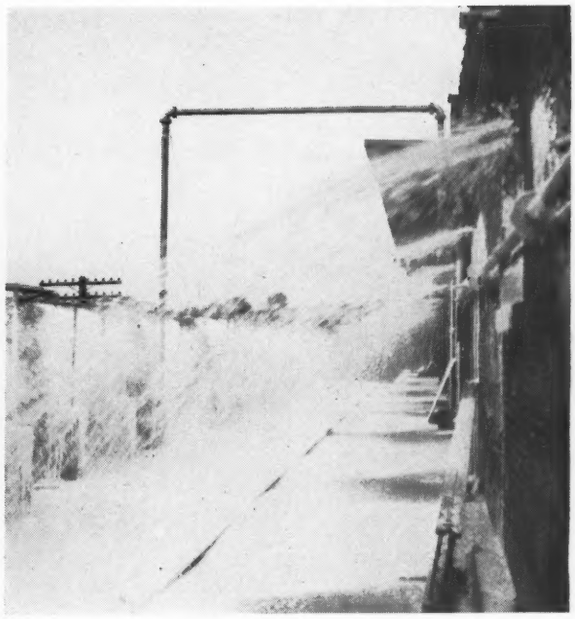
For many years fire-protection engineers have used a chemically formed blanket of carbon dioxide bubbles to extinguish fires where inflammable liquids are stored or handled. Shortly after the outbreak of World War II, a new substance was developed, producing a mass of mechanically formed air bubbles instead of chemically formed carbon dioxide bubbles, which seemed to offer advantages for use as a fire-extinguishing agent. This material was widely used by the armed forces, particularly the Navy. In fact, practically the entire output of the product in the United States was used by these forces during hostilities.

Of several materials, used to produce mechanical foam, one is a hydrolyzed protein manufactured from a soybean base and sold commercially as Aer-o-foam liquid. When mixed with water in the proportion of six per cent by volume, and aerated, this material forms a homogeneous and tenacious foam blanket which is reported to be capable of flowing around obstacles and quickly extinguishing fires involving gasoline, benzol, naptha and many other inflammable liquids.

The "Automatic" Sprinkler Corporation of America, Youngstown, Ohio, recently designed a complete fire-protection system for industrial applications, which employs Aer-o-foam liquid as the extinguishing agent. Applications of this equipment include a number of uses in the railway field, particularly at Diesel locomotive fueling stations, tank-car unloading points, oil-storage tanks, waste-cleaning plants and similar locations.

Description of System

Briefly, the new system involves a foam storage and injection system, a piping system to convey the foam liquid and water to one or more distribution systems, each including a number of overhead foam-aerating and discharge devices. Portable hose stations may also be included in the system. Control is achieved by means of pneumatic heat detectors, or heat actuated devices (H.A.D.'s), which are strategically located throughout the protected area. A sudden increase in temperature near one of the H.A.D.'s causes expansion of the air within it, driving air through a system



of small copper tubing to a mercury check valve and causing it to function, placing in operation a system of levers.

The action of the lever system, in turn, causes the main control valve—a special device known as a Rate-of-Rise Suprotex-Deluge sprinkler system valve—to open and release water into the system, and also starts a foam injection pump which releases the foam liquid to the system. Discharge of foam from the overhead nozzles follows almost immediately.

The foam storage and injection system includes a double compartmented foam-liquid storage tank and a small foam injection pump, drawing from the tank. One side of the foam-liquid storage tank is always open to the pump, while the other side is kept closed so that the system may be immediately returned to service following operation. Metering of the foam liquid into the piping system is accomplished by orifices controlled by small companion valves operated pneumatically by the Suprotex-Deluge valves.

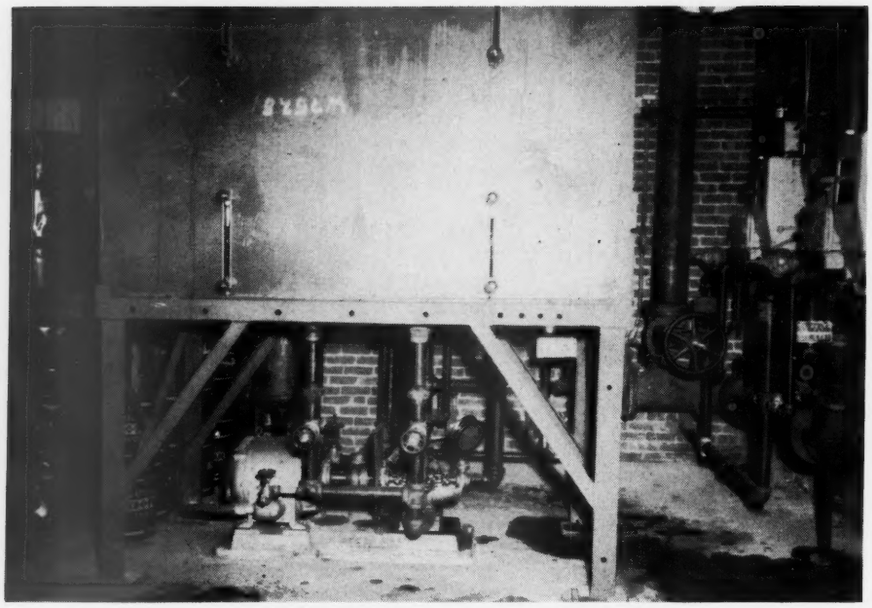
Rapid Foam Discharge

Optimum foam-making quality is said to result when between five and six per cent injection of the foam liquid into water takes place. When mixed with water and aerated, the foam liquid in one compartment of an 800-gal. storage tank will form 58,000 gal. of mechanical foam. A total of 116,000 gal. is available through the utilization of the entire 800 gal. of foam liquid.

The design of the system is such that the volume of foam discharge will cover the protected area at a rate of about two inches of depth per minute. This is considered more than adequate and, it is said, is sufficient to extinguish a fire in less than three minutes from the time of origin.

The first installation of this type of system was made at the plant of the Schenectady Varnish Company, Schenectady, N. Y., where such inflammable liquids as naphtha and benzol are stored and handled in large quantities. Tank cars are unloaded along a single spur track, flanked on one side by a building and on the other by a number of storage tanks. This particular location is practically inaccessible to mobile fire equipment. The basic problem was the control and isolation of a spill fire at any of the unloading points. A study of the situation by special hazards engineers

After 3.3 min. the system was shut off. The depth of the foam averaged 7 in. Note how the blanket flowed under the storage tank at the left



Foam liquid is stored in an 800-gal. tank which is supported above the foam injection pump

indicated that automatic equipment was essential. Consideration of this kind and other factors led to the selection of the Aer-o-foam system.

The protected area varies in width between 25 ft. and 40 ft. and is about 450 ft. long. For purposes of fire protection the area is divided into three parts, each protected by a separate system complete with a six-inch Suprotex-Deluge control valve. The Suprotex valves, in turn, are controlled by the H.A.D.'s as described earlier. Each system is provided with 16 or 17 of the foam aerating and discharge nozzles at which the discharge pressure is about 75 lb. per sq. in., and each is equipped with alarm devices which function with the operation of the main control valves. The foam-liquid storage tank has a capacity of 800 gal.

Results of Service Tests

Service tests conducted at this installation included the standard acceptance tests and also a full-scale test of one of the systems. This test was started by applying a heat testing pan to one of the H.A.D.'s. Within 18 sec. the H.A.D. had functioned and caused the proper Suprotex-Deluge valve to operate. This also started the foam liquid pump and opened its companion valve, thus sending Aer-o-foam liquid into the system through the orifice injection plate. Within 20 sec. after the operation of the control valve—38 sec. after the test was started—the discharge nozzles of this system were releasing foam at full efficiency. The system was allowed to operate for approximately 3.3 min. and used about 190 gal. of foam liquid during this period. The foam-liquid injection rate was between 6 and 6½ per cent, giving an adequate safety factor above the 5 per cent minimum injection rate.

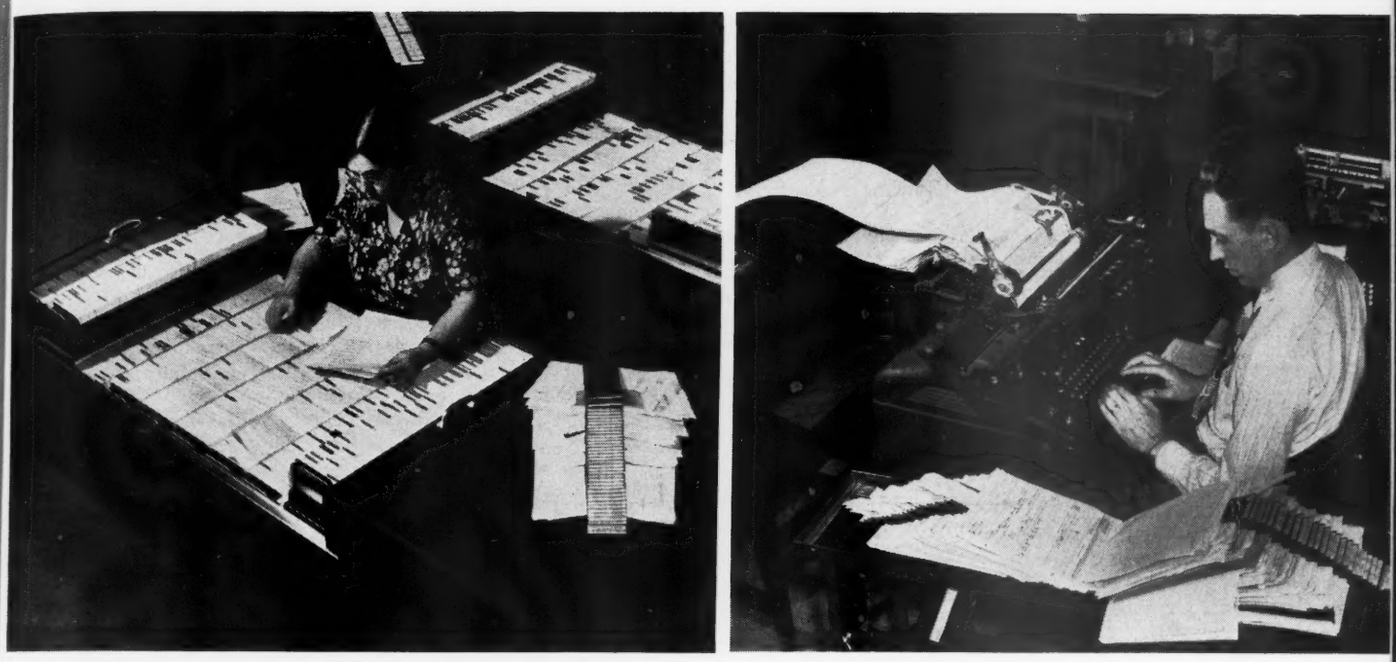
The foam coverage of the area protected by this system was excellent; a blanket of approximately seven inches of foam was laid over the unloading track. Following the completion of this phase of the test, water was discharged from the system on to the foam without serious dissipation of the blanket. During this operation it was noted that water, properly applied, may be useful in reducing the volume of foam liquid required for the control of fire. Removal of the foam blanket proved to be simple, since the foam dehydrated within a few hours and actually dissipated itself.

Last week we were talking about the tremendous gains in railroad efficiency since the end of the first World War—gains so great that railroad operating costs, and average charges paid by the public for railroad service, freight and passenger combined, now average only three per cent higher than they were in 1921, in spite of the fact that in the same years average wages and prices of fuel and materials have gone up 125 per cent.

To get the full story, it is necessary to take a look at what happened over a long period—but even since 1939, when war began in Europe, there have been tremendous gains in efficiency. Railroad wage rates and the average prices of fuel and materials have more than doubled in the last ten years. But increased railroad efficiency has held the cost of producing freight and passenger transportation service to only 46 per cent above 1939—and average charges to the public are up even less.

If railroads were now operating at the same degree of efficiency that they were in 1939, and were paying today's wages and today's prices for fuel and supplies, the cost of running the railroads in 1949 would have been two billion, five hundred million dollars above what it actually was. This saving of two billion, five hundred million dollars a year is one measure of the gains in railroad efficiency just in the past ten years. And this saving has benefited the public through rates that are lower than they would otherwise have had to be.

—*The Railroad Hour*



Left—The B. & O. methods group has made a study of the office of the general freight claim agent. Among the equipment installed as a result were these Roll-Dex file units. Right—Also installed in the freight claims office were Remington Rand bookkeeping machines and the Synchromatic punch apparatus (right background). In the immediate foreground is a Savasort file, a work-holding device

OFFICE METHODS GROUP PAYS ITS WAY

Baltimore & Ohio "office methods and procedures department" to be expanded—Mechanization and redistribution of work flow increase efficiency in many offices

By R. B. WHITE,
President, Baltimore & Ohio

Early in 1945 the Baltimore & Ohio determined to establish a comparatively small department to be known as the "office methods and procedures department," for the purpose of studying clerical methods and procedures and installing new procedures and mechanization where practical and economical. This department was made a function of the president's office, since the methods and procedures group works in all departments. This plan gives it more of an impartial status than if it reported to any designated department head.

There are three main reasons for a full time methods group: First, by supplementing department heads in this work we hoped to speed getting the answers to our problems, without sacrificing production; second, a fresh "outside" point of view is healthful and helps banish that state of mind where the forest cannot be seen for the trees; and last, such a group, by the very nature of its work, would be more conversant with the latest office machinery and methods for doing various types of work.

Studies by the methods group in the various offices to which it is assigned are made for the purpose of determining the functions performed, work load, method and quality of supervision, form of organization and other related matters. After completing such studies, recommendations are made which incorporate such changes as realignment of functions, modernization of organization structure, mechanization, flow of work and job specifications.

DEPARTMENTS IN WHICH STUDIES HAVE BEEN MADE AND NEW METHODS AND OFFICE EQUIPMENT INSTALLED

Auditor Freight Traffic	Office of Division Superintendent
B. & O. Warehouse Office	Public Relations
Car Service	Real Estate
Freight Stations	Relief Department
Freight Traffic	Salvage Warehouse
General Freight Claim Agent	

Since 1945, when the office methods and procedures department was established, the B. & O. has increased efficiency, improved service to the public and effected substantial savings in clerical employment. This has been done while a number of new accounting and cleri-

cal requirements have entered the picture, for example, withholding taxes. New methods and procedures are necessary to meet these constantly rising clerical costs.

In order that the work of this new department might start off on the right foot, the head of each department was furnished with the following information:

"It is believed that thoroughgoing analysis of office functions and procedures on the system will result in modernization and improvement. It has been determined that this work should be directed through the establishment of a separate department—office methods and procedures department.

"The representatives of the newly established department will be privileged to consult you and your subordinates for information and constructive suggestions and will work in harmony with all concerned in formulating a program of procedure. These representatives will seek your approval of any proposed changes in the offices under your jurisdiction."

This department is headed by an officer classified as "manager, office methods and procedures," who has a staff of seven assistants. During the past five years studies have been made in offices and departments having a large concentration of clerical employment so that the most efficiency and larger economies might be obtained at the outset. The results so far accomplished have fully justified the creation of this department; in fact, it will be expanded.

Examples of the character of the work performed by the methods group, and the results obtained, will be outlined in articles planned for subsequent issues of *Railway Age*.

Communication . . .

Inadequate Pay for Moving the Mail

[When we heard of Commissioner Mitchell's criticism of us, from the bench, on January 26, we wrote him immediately to assure him that, in finding fault (in our January 21 issue) with the I.C.C. for failure of the railroads, so far, to secure more than a 25 per cent increase in the payment for carrying the mails, we had no intention of reflecting personally upon him or any other individual commissioner. We reminded him, however, of our duty to speak out frankly wherever we honestly believe that the facts call for such action. Commissioner Mitchell's answer to this letter of ours follows below.

We explained our position fully, in the light of his criticism of us, in the leading editorial in our February 4 issue — which, we believe, also fully answers this letter from the commissioner. Briefly, our view is that 25 per cent is not a big enough increase for the railroads to be getting for moving the mail — and if the hallowed traditions of I.C.C. procedure do not enable it to move any faster, then it ought to revise its traditions.—Editor]

WASHINGTON, D. C.

TO THE EDITOR:

I feel certain you were not fully acquainted with the facts of the Railway Mail Pay Case, when you wrote your [January 21] editorial for the *Railway Age*, criticising the Interstate Commerce Commission's handling of this matter.

I agree with you when you say, and I quote from your letter, "We simply must write and speak — you and your colleagues as well as I — with complete forthrightness and according to our lights, let the chips fall where they may, or we will never get the right questions even asked, let alone answered." But I add to your statement, as an essential part thereof, when you or I speak we should state the facts as shown by the record and I very frankly say, your editorial was not in accordance with the record.

Now, let us look at the record. The last general mail pay increase fixed by the commission was on July 10, 1928, retroactive to May 9, 1925. The railroads and the postmaster general had a right six months thereafter to ask for a review. Neither asked for a review until the railroads on February 19, 1947, filed a petition asking for a 45 per cent increase. The railroads did not inform the postmaster general that they were going to ask for an increase until February 14, 1947, just five days before they filed their petition. So the postmaster general, without any warning, was confronted with a claim by the railroads for an increase of 45 per cent. The Railway Mail Pay Act of 1916 provides that we shall fix just and reasonable rates after a hearing. Fairness demanded that the postmaster general be given an opportunity to prepare his side of this case. The question involved is one of cost. The railroads knew they were going to file their petition of February 19, and I think it is fair to assume that they were preparing for a hearing, but the postmaster general had no such knowledge and, therefore, no opportunity to prepare. A prehearing conference was held in my office in April, 1947. There the problems confronting the postmaster general were brought to my attention and upon his application a continuance was granted. The hearing was set for July 10, 1947. The railroads presented their evidence.

At the request of the postmaster general a continuance was granted to permit him to study the evidence for cross examination of the carriers' witnesses. He was not ready to present direct evidence in the proceeding on behalf of the department. Hearing was resumed on September 30, 1947. On July 14, 1947, the railroads filed their motion asking the commission to grant an increase of 35 per cent forthwith, to be effective during the interim from and after February 19, 1947, until the final order upon the original petition. On October 2, 1947, the hearing ended.

The solicitor for the Post Office Department stated that he was not ready to present evidence and could not state definitely when he would be able to do so. The railroads asked that their motion for interim relief be immediately considered. The parties were then given until October 15, 1947, to file their briefs on the question of interim relief, and on October 27, 1947, that question was orally argued before the commission. On December 4, 1947, the commission handed down a report consisting of approximately 32 pages granting the railroads a 25 per cent increase for carrying the mail, retroactive to February 19, 1947. Four months and 20 days after the railroads first asked for an interim increase and one month and 7 days after it was argued this commission granted the railroads a 25 per cent increase, in dollars, approximately 35 to 40 million.

No one in fairness, knowing the record, could say we acted "By caution scarcely distinguishable from complete paralysis, on the part of the Interstate Commerce Commission," as your editorial stated. You infer in your editorial

that there should have been action after December 4, 1947. The reason why the commission did not proceed with hearings after December 4, 1947, is because neither the Post Office Department nor the railroads were ready to present the detailed evidence needed to decide the case. The railroads filed another application for interim increases but informed the commission through their general counsel, they did not want an immediate hearing and would advise us when they did want one. Not until December 5, 1949, did the railroads ask for another hearing.

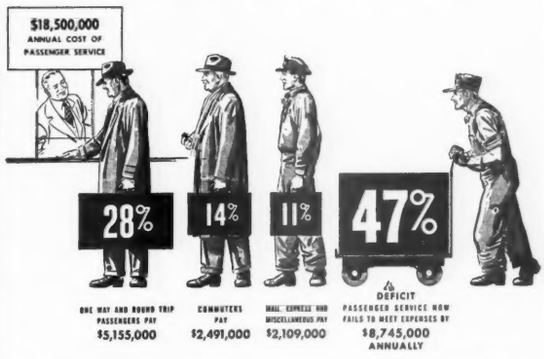
In your editorial, you state "Meantime — while unquestionable power lies in the Interstate Commerce Commission to eradicate the 'head-end' deficit overnight, by a flick of the pen." I cannot believe that you or anyone else really believes any such thing. If you are acquainted with the causes of head-end deficits and with the fact that the commission, insofar as mail pay rates are concerned, must hold hearings, you will realize that the statement "flick of the pen" ignores the act and creates in the minds of the people the impression that the commission is deliberately withholding action.

The editorial states, "Individual commissioners are going around making speeches and writing articles, lecturing the railroads for their overall passenger service deficit of a half-billion dollars; and admonishing them to do something about it." I have made such speeches and I propose to do everything in my power to find reasons for, and recommend all possible means to help reduce the passenger deficit for I am convinced the future of the private ownership of railroads depends upon the ability of the railroads to reduce it.

During my ten years' experience on the Supreme Court of Iowa, cases were decided under the law, and upon the written record submitted, and I propose to reach decisions on the cases which are submitted to the Interstate Commerce Commission in the same manner. I believe in prompt decisions. The Mail Pay Case has been on my docket for administrative handling and I am responsible for the manner in which it has been handled. If it has not been properly handled, the commission should not be criticised. The criticism should be hurled at me for I accept full responsibility. I do not challenge anybody's right to criticise, but expect those criticising to know the facts.

RICHARD F. MITCHELL
Commissioner
Interstate Commerce Commission

Users of Reading Company Passenger Service Now Pay Only a Little More Than Half the Yearly Cost of $18,500,000



The huge deficit from passenger service has become a grave problem, not only as to such operations taken separately, but also as a serious and ever-increasing drain upon the only other operating revenue of the Company—which is derived from freight shippers. Accordingly more equitable passenger fares are a matter of concern to both passenger and freight patrons.

While freight rates have increased 56⅔ and basic coach passenger fares have increased 69⅔ in recent years to partly meet the rising tide of wage increases and the cost of supplies, there has been only one advance of 5c per ride in monthly and weekly commutation fares in thirty years

As commutation fares have not kept pace with the revision in charges for other railroad traffic, it now becomes necessary to bring these to a level where they will bear a more equitable share of the steadily rising cost of providing passenger service.

Reading lines READING COMPANY

In the newspaper advertisement reproduced above, the Reading not only gives figures about passenger-service losses in general, but also emphasizes the fact that commutation fares have lagged behind revisions in charges for other types of railroad traffic

New Book . . .

THE FIRST TRANSCONTINENTAL RAILROAD, by John Debo Galloway, 303 pages, illustrations, maps. Published by Simmons-Boardman Publishing Corporation, 30 Church street, New York. Bound in cloth. Price $5.

This is not just another book on the country's first transcontinental railroad — of which there are many. There is no emphasis here on the strange and wonderful finances behind the two transcontinental companies, the political by-play surrounding government aid in their construction, nor the much-talked-of romance of the public derring-do and private sins of the strong men who built the roads. All of these things have been discussed before in great detail.

Mr. Galloway's work is of another kind. It is the book which railroaders and students of railroading have long awaited. It is a book primarily of facts, set down clearly and in logical order. The result is just what you would imagine would stem from good writing about a fascinating subject: a narrative which cannot be laid down.

The author could not avoid producing a work full of interest, although romance was not his goal. Here are answered many questions which hitherto available popular works on the U. P. and C. P. have left unanswered. There are set forth, for example, weights of rail; whether the ties were hewn or sawn; why the two roads were so slow in getting started; where supplies were concentrated; exactly how rails and fastenings were distributed on a single track line so that the track-laying crews could lay as many as 10 miles of new track a day without running afoul of the supply train. Up to his death the author was indefatigable in the time-consuming job of amassing technical material never before published.

The book contains a large number of excellent photographs, bound together in a separate set for each of the two railroads.

Author Galloway's succinct discussion of the plans, surveys and political disputes which preceded actual formation of the U. P. and C. P. is the best this reviewer has seen. The same cannot be said of material which deals in a spasmodic way with the history of railroads in general prior to 1870. It appears that a "rehash" of the origin and early developments of railroads is neither pertinent to the subject in hand, nor a necessary aid to the reader, considering the multiplicity of such sketches in other works.

The engineer will find everything in this book he desires — including the truss type of each important bridge, the geology of the area, and the nature of cuts and fills. To a much wider audience the book must appeal in an equal measure, because survey and construction details are so palatably presented that even the lay reader readily comprehends their significance.

Eight tape controlled key-punch machines in the car service office at New Haven automatically punch car record cards from Teletype tape. Two manual key-punch machines—shown in the foreground—produce cards for the relatively small proportion of freight trains operated between non-Teletype points. The 10 machines, which are monitor operated, produce an average of approximately 25,000 car record cards a day

NO MORE CUT-UPS . . .

New Haven has mechanized entire car service procedures

There is a fascinating machine in the New York, New Haven & Hartford's car service office which — though unattended — grinds away at the monthly car record books, printing the required data in numerical and chronological order, and computing total days for per diem payments.

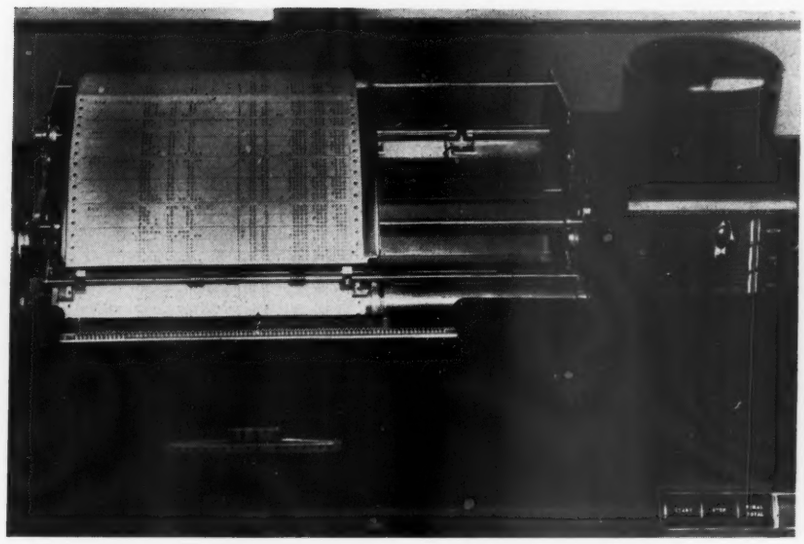
Punched cards, which are mechanically sorted by railroad, by car number, and by date of movement, are the "rolls" that make this International Business Machines "player piano" go to work. They take the place of the traditional cut-up slips snipped from wheel reports and interchange records. Information which the cards convey, neatly typed, to the record book includes the following:

Car initial and number
Type of car
Junction point if interchange record, or train symbol if wheel record
Route if interchange record
From (station number)
To (station number)
Loaded or empty (if interchange record, received or delivered)
Month
Day
Per diem (days on New Haven)
Interchange report sheet number if interchange record, or train number code if wheel record
Time of departure
Time of arrival

Extensive Use of Teletype

Valuable information which is in addition to that carried in the former hand written records includes the full record of the train and time of movement, and the junctions for home routing of foreign cars.

The elimination of cut-ups for preparation of the monthly car record books and other records is made possible by a system-wide communication system, whereby origin yards transmit train consists by Teletype.



Close-up view of record book being printed on I.B.M. tabulating machine. As the record book is printed, per diem is calculated and printed in the record book, the car initial, number, type of car and per diem days being automatically punched into separate per diem summary cards which are produced on an attached summary punch. These per diem cards, after checking of those where a special symbol indicates open records, are then used—on the same tabulating machine—to print the per diem settlement statement

CMO	38910	B	BL14	8327	75			ET	11	30		28103	105	245
			UP1	75	23			E	12	1		15013	55	145
			EX070	23	17			E	12	2		8553	945	1345
			NG3	17	6			E	12	3		3052	840	1205
			GREENV	NH	PRR			ED	12	3	3	1668	1915	799
CMO	38916	B	MD6	ACLRFPPRRNH		12	12	LR	12	16		1665	1710	1158
			GN 2	6	17			L	12	17		3082	640	1300
			P2	17	6			L	12	18		10083	100	310
			PL5	6	18			L	12	19		27033	2030	2115
			NEWLON		NH	CV		LD	12	19		92075	2355	350
			NLONDO		CV	NH		LR	12	27		92000	2355	5000
			BN 9	18	1 17			L	12	28		8093	940	1140
			ND2	17	41			L	12	29		18023	135	445
			HL1	41	4 28			L	12	29		26023	1035	1045
				NAUGATUCK	CT			OH	12	31	7		2359	
CMO	38920	B	N1	8M	WORC	NH	PRR	LR	12	6		55088	758	758
			N1	62	17			L	12	6		10073	1135	1640
			NE1	17	6			L	12	6		3092	2320	150
			GREENV	NH	PRR			LD	12	7	1	1654	345	799
CMO	38924	B	OKEO		NYC	NH		LR	12	5		12005	1230	
			N011	32	31			L	12	8		1113	1815	1935
			MAYBRK	NH	EH	DLW		LD	12	8	3	30120	2230	380

Part of a sheet from the car record book as produced automatically from the punched cards by the tabulating machine. Data correspond to that listed immediately following the first paragraph of the accompanying text

eliminating the former hand written wheel reports. The Teletype produces a tape at the receiving points — the destination yards and the car service office. The tape is run through automatic tabulating machines which prepare punched cards. For the car service office, these cards are, in effect, mechanically prepared cut-up slips. (The overall operation of the New Haven's I.B.M.-Teletype operation was described in *Railway Age* of February 23, 1946. Since that article appeared the system has been extended so that 11 yards — Maybrook, Oak Point, Bay Ridge, Greenville, Cedar Hill, Hartford, Springfield, Providence, Worcester, Boston and Framingham — together with the car service office at New Haven — are covered by the operation.)

The replacement of punched cards for cut-ups is one of the refinements of the speedy, accurate and efficient mechanized method of handling train consists and interchange reports.

Benefits of Mechanization

The punched cards are used also to prepare daily junction reports for forwarding to foreign lines. The junction report forms are spaced so that they can be "sliced" into standard cut-up slips. Since the cards are sorted in numerical order, junction lists reach foreign carriers arranged by car number, which fact reduces their sorting operations. In the event other roads have I.B.M. equipment it is possible to forward the punched cards as the junction reports, since those roads would be able to use the New Haven's cards in place of punching their own. Per diem settlement information is already being interchanged on punched cards between a number of roads and it is planned to work out a method for handling junction reports on punched cards to eliminate manual punching.

Benefits of mechanization which have accrued to the car service office are:

(1) earlier receipt of information — which, in turn, has greatly reduced telephone requests on yards and interchanges for car movement data (one yard office has removed 10 of its 15 telephones since installation of the I.B.M.-Teletype system);
(2) the elimination of clipping and manual sorting of cut-up slips;
(3) increased legibility of reports;
(4) simplification and reduction in the size of reports and reduced storage space requirements (eliminating cut-up slips permits elimination of cut-up margins, making it possible to get more cars on smaller sheets on the wheel reports); and
(5) increase in accuracy through the elimination of the numerous manual transcriptions formerly required.

GENERAL NEWS

No New Service Cut Expected by Johnson

I.C.C. chairman so appraised situation as of February 15

Chairman J. Monroe Johnson of the Interstate Commerce Commission said on February 15 that the situation at that time was such as to indicate no need for an immediate further reduction in coal-burning locomotive mileage of the railroads. He had conferred on the previous afternoon with representatives of the Association of American Railroads, reviewing reports which showed that the carriers on that day had a 14.5-days' supply of fuel coal overall.

Meanwhile, the strike of bituminous coal miners, which prompted the commission to issue service orders requiring a 25 per cent reduction in the mileage of coal-burning freight locomotives and a further reduction, to 50 per cent, in the mileage of coal burners in passenger service, had not ended. On February 15, the miners were still out, despite a court order directing the United Mine Workers and its president, John L. Lewis, and the coal operators to resume production.

The order was issued by Judge Raymond B. Keech of the United States District Court for the District of Columbia, upon petition of the federal government after President Truman had received the report of the board he appointed to investigate the controversy pursuant to the national-emergency provisions of the Taft-Hartley Act. The presentation made by the government in support of its petition included an affidavit from Colonel Johnson.

Constant Attention Necessary

There the I.C.C. chairman said that "further curtailment of rail freight and passenger service is under consideration and must have constant attention, which it is receiving." Colonel Johnson closed his affidavit with this warning: "should the interruption in the production of bituminous coal be prolonged for any considerable period of time it will mean a complete breakdown of rail transportation and, as a consequence, paralysis of the nation's economy."

The service orders issued by the commission were No. 846, which cut passenger service, and No. 847, which cut freight service (see *Railway Age* of February 11, page 51). They became effective at 11.59 p.m. February 10, as did Amendment No. 1 to No. 847, which the commission issued subsequently to exempt from the freight-service cut any railroad which, on February 8, did not operate over its line more than one train in each direction.

In saying that the February 15 situation did not indicate an immediate need for further cuts, Colonel Johnson went on to reveal that he has been studying the distribution of Diesel-electric locomotives throughout the country. In that connection, he has suggested the possibiliy that more reductions in the mileage of coal burners might require consideration of a plan to make Diesel-electrics available to roads on which service might otherwise be seriously interrupted. His studies thus far, the Colonel also said, have left him "surprised" at how well Diesel-electrics are now distributed. Thus he does not at this time foresee conditions under which shifts from one road to another might be called for. The I.C.C. chairman has also talked about the possibility of shifting fuel coal from one road to another, it has been learned.

Data on Coal-Burning Service

Latest A.A.R. figures indicate that 49.9 per cent of the total freight-service locomotive miles are now being performed by locomotives other than coal burners, while the like passenger-service percentage is 66.6. By districts, the respective percentages are: Eastern, 34.3 and 48; Allegheny, 31.3 and 57.8; Pocahontas, 7.8 and 7.7; Southern, 33.8 and 60.4; Northwestern, 53.7 and 62.1; Central Western, 77.1 and 92.3; Southwestern, 80.8 and 96.7.

In addition to the statements quoted above, Colonel Johnson suggested in his affidavit to the court that further curtailment of railroad service would have adverse effects on other forms of transportation. Air, highway, and water carriers, he explained, "are primarily dependent upon railroad transportation for the fuel used in performing their public service."

"The action by the commission curtailing railroad activities," he also said, "will necessarily cause grave inconvenience and serious hardship. It was impossible to act otherwise. These orders were written as a last resort and had they not been issued the nation would already have seen its transportation system completely paralyzed. The importance of rail transportation among the transportation facilities of the nation is indicated by the fact that in 1948... 647.1 billion ton-miles of intercity commercial freight traffic was handled or 64.2 per cent of the total. These statistics emphasize the vital importance of the railroads to the national security whether the nation be at war or at peace."

In compliance with I.C.C. service orders 846 and 847, the following representative railroads have announced changes in service:

The Baltimore & Ohio discontinued 25 passenger trains. The Boston & Maine cancelled 161 passenger trains although, it said, the large number of Diesel-electric locomotives it has in operation will be able to keep all main-line through passenger trains moving without curtailments. Freight service on the B. & M. will not be affected appreciably because Diesels now handle about 96 per cent of all its freight movements, the road added. The Chicago, Indianapolis & Louisville is completely Dieselized and has not been affected by the I.C.C. orders. Six passenger trains were dropped by the Delaware, Lackawanna & Western and a seventh has discontinued handling passengers.

An additional 20 weekday passenger trains and 11 Saturday-only and 12 Sunday-only trains have been dropped by the Jersey Central Lines. The New York Central cancelled 39 passenger-service trains and reduced its steam-hauled freight-train miles by consolidating sym-

"Transportation at the Crossroads"

"Transportation is at its crossroads because of the gradual creation of a system in which government no longer merely regulates transportation, but actually determines competitive factors by its diversion of tax funds to subsidies for certain other carriers.

"There can never be really economical transportation in this country until shippers, consumers and taxpayers can determine the true cost of transportation services and evaluate the contribution made by each mode on its basis of rates reflecting true costs. The alternative will be an increasing confusion of waste and inefficiency that have marked state-subsidized business throughout history.

"In a world drifting toward Socialism, the railroads by their efforts and service have maintained for the United States the only important privately operated railroad system remaining in the world. It is still the bulwark of privately owned transportation."

—Fred N. Nye, assistant to general freight traffic manager, New York Central System, in an address to Bronx (N. Y.) Lions Club on February 15.

	Employees Furloughed	Trains Affected* Through	Suburban	Coal Supply (Days)
Chicago & Eastern Illinois	15	None	..	30
Chicago, Burlington & Quincy	N.A.	None	None	3.8
Chicago, Milwaukee, St. Paul & Pacific	N.A.	48	29	7
Chicago, Rock Island & Pacific	None	7	16	7
Chicago & North Western	150	34	86	7
Chicago & Illinois Midland	350	22 Freight	..	20
Denver & Rio Grande Western	379	None	..	12
Grand Trunk Western	150	13	..	12
Illinois Central	3,400	23	None	5
Louisville & Nashville	5,700	16 Freight and Passenger	..	14
Missouri Pacific	400	None	..	7
Minneapolis, St. Paul & Sault Ste. Marie	N.A.	28	..	N.A.
St. Louis-San Francisco	None	None	..	15
Union Pacific	1,004	51 Freight and Passenger	..	12

*Passenger trains unless otherwise designated. Refers to trains discontinued, consolidated, had mileage reduced or stops added. Also includes reductions made in compliance with I.C.C. order effective on January 8.
N.A.—Not available.

bol freight trains between classification yards and by instituting alternate-day delivery of cars by way freight trains. By rearranging its fleet of Diesel locomotives the New York, New Haven & Hartford has been able to continue operation of all passenger trains and freight service. The discontinuance or curtailment of 12 additional passenger trains and the use of Diesel power on six more was announced by the Norfolk & Western.

The Pennsylvania has withdrawn 29 passenger trains from service and consolidated the all-coach "Trail Blazer" between New York and Chicago with the all-Pullman "General" and the all-coach "Jeffersonian" between New York and St. Louis, Mo., with the all-Pullman "Spirit of St. Louis." To meet the requirements of the commission's orders the Seaboard Air Line has changed the schedules of 4 passenger trains. An additional 8 trains have been dropped by the Southern.

The majority of Western roads reported that no mines had opened up in their territories. The lines generally were meeting the reduced freight mileage requirement by operating tonnage trains and by running branch-line and local freights less frequently.

Additional information as to the effect of the strike on railroad service was obtained from various roads and is summarized in the accompanying table.

1949's Net Income Totaled $436 Million

Net railway operating income for year was $686,514,591

Class I railroads in 1949 had an estimated net income, after interest and rentals, of $436,000,000 compared with $698,000,000 in 1947, according to the Bureau of Railway Economics of the Association of American Railroads. Last year's net railway operating income, before interest and rentals, was $686,514,591, a return of 2.91 per cent, compared with 1948's $1,002,222,766, a return of 4.38 per cent.

Twenty-three Class I roads failed to earn interest and rentals in 1949, of which 11 were in the Eastern district, 4 in the Southern region and 8 in the Western district.

The 1949 gross amounted to $8,580,321,656 compared with $9,671,855,182 in 1948, a decrease of $1,091,533,526 or 11.3 per cent. Operating expenses amounted to $6,891,786,124 compared with $7,472,000,861, or a decrease of 7.8 per cent.

December Gross

For December, 1949, the gross amounted to $710,829,884 compared with $806,596,673 in December, 1948. Operating expenses amounted to $568,291,720 compared with $649,012,986. Net railway operating income totaled $69,309,386 compared with $64,501,945 in December, 1948. Net income was estimated at $82,000,000 compared with a net income of $45,000,000 in December, 1948.

Class I roads in the Eastern district (including the Pocahontas region) in 1949 had estimated net income of $124,000,000 compared with a net income of $259,400,000 in 1948. Those same roads had a 1949 net railway operating income of $265,412,529 compared with $429,570,639 in 1948. Gross in the Eastern district in 1949 totaled $3,795,156,772, a decrease of 13.9 per cent compared with 1948, while operating expenses totaled $3,127,253,462 or a decrease of 10.3 per cent.

Class I roads in the Southern region in 1949 had an estimated net income of $63,000,000 compared with a net income of $94,300,000 in 1948. Those same roads had a 1949 net railway operating income of $105,948,147 compared with $138,971,103 in 1948. Gross in the Southern region in 1949 totaled $1,184,858,806, a decrease of 10.1 per cent compared with 1948, while operating expenses totaled $943,476,621, or a decrease of eight per cent.

Western District

Class I roads in the Western district in 1949 had an estimated net income of $249,000,000 compared with $344,500,000 in 1948. Those same roads had a 1949 net railway operating income of $315,153,915 compared with $433,681,024 in 1948. Gross in the Western district in 1949 totaled $3,600,306,078, a decrease of 8.8 per cent compared with 1948, while operating expenses totaled $2,821,056,041, a decrease of 4.7 per cent.

CLASS I RAILROADS
UNITED STATES
MONTH OF DECEMBER

	1949	1948
Total operating revenues	$710,829,884	$806,596,673
Total operating expenses	568,291,720	649,012,986
Operating ratio—per cent	79.95	80.46
Taxes	57,508,091	81,535,825
Net ry. op. income (Earn. before chgs.)	69,309,386	64,501,945
Net inc., af. chgs... (estimated)	82,000,000	45,000,000
TWELVE MONTHS ENDED DECEMBER 31, 1949		
Tot. op. revenues..	8,580,321,656	9,671,855,182
Tot. op. expenses..	6,891,786,124	7,472,000,861
Operating ratio—per cent	80.32	77.26
Taxes	832,693,632	1,028,469,500
Net ry. op. income (Earn. bef. chgs.)	686,514,591	1,002,222,766
Rate of return (Per cent)	2.91	4.38
Net inc., aft. chgs. (estimated)	436,000,000	698,000,000

Recommend Separation of Air Mail, Subsidy Payments

Senator Johnson, Democrat of Colorado, chairman of the Senate interstate and foreign commerce committee, has submitted to the committee a "provocative" report prepared by a New York accounting firm and dealing with separation of direct subsidy payments from compensatory mail pay for the nation's airlines. The report was prepared at the committee's direction by the firm of Ernst & Ernst, and embraces the following recommendations: That payments to airlines as compensation for carrying mail be separated from "auxiliary payments" made to them to cover "efficient operation on routes held to be essential in the public interest." The mail payments would continue to be made by the Post Office Department, while the subsidy payments would be made from funds specifically appropriated for that purpose.

As a basis for mail payments, the report suggested establishment of a "rate structure" bearing a direct relationship to passenger rates. Passenger service has aggregated more than 80 per cent of the revenue ton-miles flown in the past 8 years, the report said, and mail rates based on this major source of revenue "would at least provide the same incentive inherent in other rates." The mail pay rate structure, as outlined in the report, would consist of two elements, a fixed one to cover those terminal costs incident to handling mail, and a variable one "based upon a direct relationship to the passenger rate structure." Both the fixed and variable elements would be subject to a minimum poundage for each designated flight with

gradual step increases for increased poundage.

With respect to the subsidy payments, the report went on to recommend they be based upon "operating effectiveness and specific requirements of the individual carriers" and paid from funds not part of the Post Office Department budget. Such payments should be set up after cost studies for individual carriers have been made, thus taking into consideration the operating conditions incurred by each carrier, the report said. By basing these subsidies upon a "budgeted efficient operating program" rather than on "historical results of operations" payments will not be made for inefficient operations and additional incentive to the carriers will be provided.

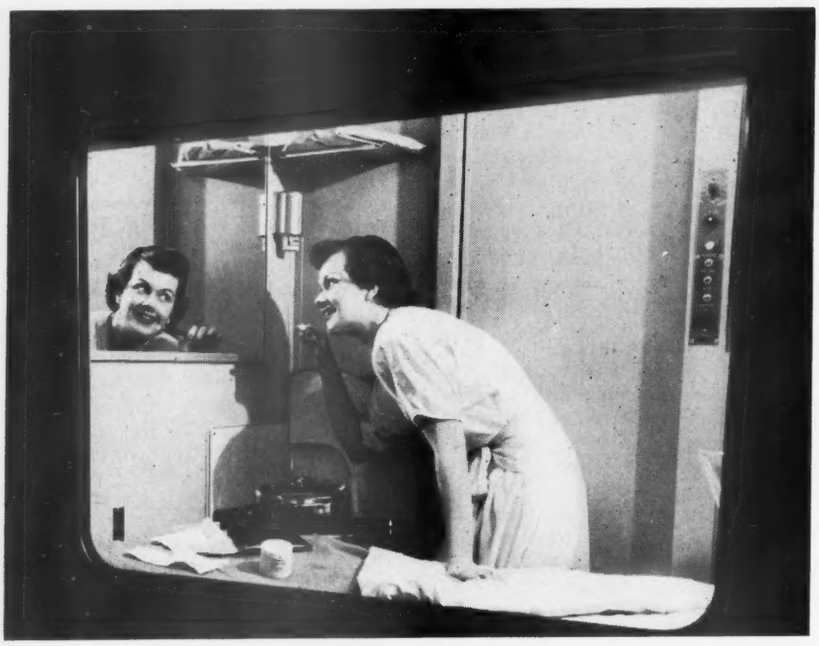
The report emphasized that basic cost studies should be made before the recommended program could be applied to any specific route. "Composite industry standards cannot be used," it said, because of the constantly changing conditions under which each carrier must operate. The report went on to recommend a study of the present domestic route pattern with a view to consolidating or eliminating certain route segments that might result in larger payments by the government if the plan should be put into operation.

The conclusions drawn in the report were to the effect that "a consistent and understandable system for compensating the air carriers can be substituted for the . . . complex methods which are now a burden to both carriers and government," and that by identifying mail pay from "auxiliary payments" attention will be concentrated upon operating methods and procedures and a constant incentive provided toward increased efficiency. The report noted that certain changes in the Civil Aeronautics Act would be necessary before such a program could be placed in operation.

Meanwhile, as this report was in the hands of the Senate committee, the subcommittee on transportation of the House interstate and foreign commerce committee began hearings on a bill (H.R. 2908) designed to separate air mail pay from subsidy payments. Secretary of Commerce Charles Sawyer and Chairman Joseph J. O'Connell, Jr., of the Civil Aeronautics Board appeared before the subcommittee on February 15 to support the bill.

Secretary Sawyer said a separation of subsidy payments to air carriers and payments for carrying air mail "should be made at the earliest possible moment." He pointed out that he had recommended such a separation in the transportation report which he submitted recently to President Truman. The secretary also said that "any government payments to the carriers in excess of this amount (fair compensation for carrying mail) should be labelled for what they are—subsidies." He said payments for transportation of air mail should be based upon the "fully distributed costs" of performing the service, and suggested the C.A.B., which would carry out the job, be given at least a year to place any system of air mail-subsidy separation into effect.

Chairman O'Connell, in his testimony, said the C.A.B. for the past ten months has taken the position that such a separation is "desirable" but added that the board was not sure as to how to accomplish it. He said two fundamental objectives of separation would be "to obtain a measure of the extent of commercial self-sufficiency in our air transportation system," and to attain "a more rational system of government accounting."



NICKEL PLATE IS PUTTING 25 NEW STREAMLINE CARS INTO SERVICE.—A $3,000,000 fleet of lightweight, streamline passenger cars—featuring, among other things, more commodious roomettes—are now being delivered to the New York, Chicago & St. Louis by the Pullman-Standard Car Manufacturing Company. The equipment includes 13 all-room sleeping cars, 10 coaches and 2 combination bedroom-diner-lounge cars, delivery of which is to be completed during April. These cars will fully modernize the equipment used on main-line passenger trains operating between Chicago and Buffalo, N. Y., by way of Fort Wayne, Ind., and Cleveland, Ohio, and between the latter point and St. Louis, Mo. By shaping the roomette bed to allow standing room, a passenger can lower the bed without backing into the aisle and can use the wash stand without pushing the bed back into the wall (above). Bedrooms are so arranged that two can be converted into one large room by folding back a partition. The new cars also feature "zone heating," which warms the side walls and window panes; triple-view dressing-table mirrors recessed in bedroom walls above wash stands; enclosed toilets in bedrooms; and sliding end doors that open easily (left)

Passes Bill to Raise Parcel Post Rates, Cut Weight Limits

Increased parcel post rates and reductions in size and weight limits applicable to parcels handled in the service are proposed in a bill, H.R.2945, which has been passed by the House. The higher charges on parcels, and other postal-rate advances proposed in the bill, would increase annual revenues of the Post Office Department by approximately $131 million, according to estimates given during House debate on the measure.

While present size and weight limits of 100 in. in length and girth combined, and 70 lb., would continue to apply on parcels shipped to or from any rural

route, or to or from any third-class or fourth-class post office, the limits on other parcels would be reduced. The size limit would be cut to 72 in. in length and girth combined; and the weight limits would be 40 lb. on parcels shipped locally or to the first and second zones, and 20 lb. on those shipped to the third to eighth zones.

The parcel post (fourth class) rate on local shipments would be 15 cents for the first lb. and 1 cent for each additional lb. or fraction thereof. The comparable present local rates are 10 cents for the first lb., 1 cent for each additional lb. up to 10 lb., and 0.75 cent for each additional lb. from 11 lb. to 70 lb. The zone rates for the first lb. would range from 16 cents for delivery to the first or second zones to 25 cents for delivery to the eighth zone; and the "each-additional-lb." rates would range, respectively, from 2.1 cents to 11.5 cents. The present range of the "first-lb." zone rates is from 12 cents to 18 cents, while the "each-additional-lb." rates range from 2.1 cents to 11.5 cents for each additional lb. up to 10 lb., and from 2 cents to 11.25 cents for each additional lb. from 11 lb. to 70 lb.

In urging his colleagues to support the increases in parcel post rates, Representative Murray, Democrat of Tennessee, who is chairman of the House committee on post office and civil service, said that the present situation is one in which the government is "driving out of business by unfair competition the private express companies." He noted that the number of packages shipped by parcel post increased by more than 200 million during the past three years, when there was a "great decrease in express shipments." The Post Office Department, Mr. Murray also said, does not have sufficient or adequate facilities for handling its "terrific" present volume of parcel business.

The bill's proposed increases in other postal charges would not change present rates for first-class letter mail or air mail. The only change in first-class rates would be an increase, from one cent to two cents, in the charge for postal cards. Another provision would give the postmaster general authority to prescribe "by regulation" the charges for various special services such as registry of mail, collection-on-delivery service, special delivery, special handling, and issuance of money orders.

Mediation Fails, Trainmen and Conductors to Set Strike Date

Mediation proceedings at Chicago between the Carriers' Conference Committees, the Brotherhood of Railroad Trainmen and the Order of Railway Conductors—concerning the unions' demands for a 40-hr. week for yard service employees and rules changes proposed by both parties—ended in failure on February 14. The unions, whose members have already voted 95.5 per cent in favor of a walkout, have declared that they will shortly set an early strike date. The railroads have agreed to arbitrate the issues, as requested by the National Mediation Board, but the unions have declined.

The demands in dispute were first served on the railroads on March 15, 1949, and negotiations began on September 22. On December 14 negotiations were broken off and the brotherhoods began circulation of their strike ballot on the following day. Mediation talks had been underway since January 16, 1950.

House Group to Hold Hearings On St. Lawrence Seaway Pact

The House committee on public works will begin hearings February 27 on House Joint Resolution 271 which would approve the United States-Canada agreement for development of the proposed St. Lawrence seaway and power project. The committee's announcement said that proponents of the project would appear at this series of hearings which would end March 10 and that a second series would open on May 8 for the receipt of presentations from opponents.

Transcontinental Truck Plan Opposed By W.P. President

Invasion of the long-haul field by highway transportation means higher freight rates on grain, lumber and other heavy bulk products of western states which truckers generally shun as unprofitable, Fred B. Whitman, president of the Western Pacific, testified at an Interstate Commerce Commission hearing in Washington, D. C., on February 15.

The hearing was before Examiner

Exit "Royal Gorge"

"To Western Pacific railroaders:

"It is with regret that I advise you that trains 1 and 2, otherwise known as the Royal Gorge, will be discontinued as soon as the necessary formalities can be effected. In the meantime service on this train will be curtailed at once, with Pullmans and dining cars removed immediately.

"Past experience has demonstrated that the operation of a secondary passenger train on our railroad has always resulted in a severe financial loss. Despite this fact, when the California Zephyr was introduced last March, the Royal Gorge was established with the hope that, by utilizing all possible means of obtaining business and by aggressive promotion, the train could be kept in service.

"We have been fully aware of the desirability from several standpoints of operating a through passenger train in addition to the California Zephyr, but in spite of our efforts to increase revenues our hopes have not been realized and the losses have been staggering.

"The Royal Gorge is failing to meet its costs of operation by a net loss amounting to approximately $2,700 a day, or at a rate of net loss for that train of over $950,000 a year. In the eight months of its operation it has carried an average daily load of less than 60 revenue passengers per train. Currently the daily load of revenue passengers has dropped to 40 per train. For the eight months of operation so far the passenger train revenues have averaged $1.19 per train mile, but since the expenses were approximately $2.69 per train mile, a net loss per train mile of $1.50 resulted.

"Efforts were made to increase patronage by leasing modern coaches and by introducing lower coach fares. We attempted to obtain additional mail revenues and also pursued vigorously the possibilities of obtaining through carload merchandise express business. In addition, the possibility of handling through cars of less-than-carload freight between the Bay Area and Salt Lake City was explored.

"We investigated the possibility of establishing the Royal Gorge as another crack train, tying in with other railroads to operate a through service to midwestern cities.

"In all cases it developed that either our efforts were unsuccessful or the potential of traffic which could be reasonably anticipated failed to approach a level consistent with sound business practice.

"I should like at this time to express my appreciation for the sincere efforts that have been made by our train, engine, dining car crews, and other personnel connected with the operation of the Royal Gorge in the attempt to make its continued operation possible. I know that you have done everything you could to give our passengers a smooth, pleasant trip.

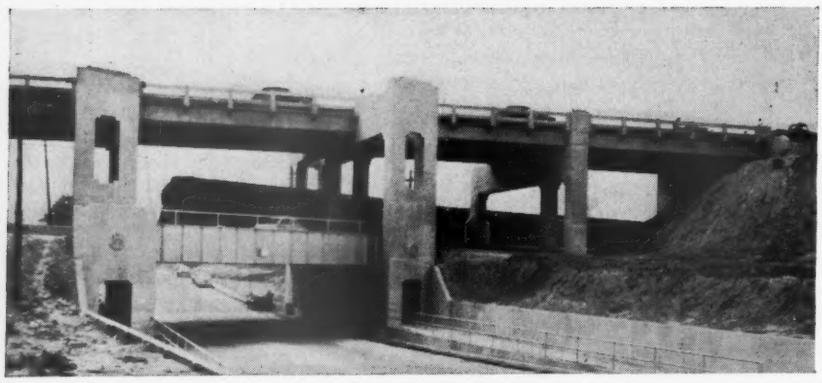
"While every possibility of obtaining additional revenue was being studied, we were willing to accept a large financial loss because of the many reasons why it is desirable to retain the train, but we cannot approve continuing the tremendous losses actually being incurred. In view of the incontrovertible statistics, no material opposition to complete discontinuance is expected, and such action will be taken as soon as the required formalities are complied with.

"Our efforts will be concentrated on the California Zephyr, so that we may maintain the prestige and fine public acceptance for that train that we have all witnessed since last March.

"I know this announcement may come as a shock to many of you. Nevertheless, I feel certain that if any of you were called upon to make such a decision as has faced us, no one would call the signals in any other way."

F. B. Whitman, president,
Western Pacific

—Reprinted from "Mileposts," Western Pacific employee publication.



Motor traffic runs above and below the tracks of the Norfolk & Western on this bridge located just outside Norfolk, Va.

Raley on the application of the Pacific Intermountain Express Company, now operating between Chicago and St. Louis, Mo., and the west coast, to acquire Keeshin Freight Lines with operating rights between those cities and the east coast.

"Instead of rendering a complete transportation service such as it required of the railroads, these truck lines pick and choose by one means or another only a selected list of commodities which constitute the most profitable traffic for them," Mr. Whitman said. "This is the traffic bearing the relatively high rates such as processed and manufactured foods, clothing, drugs and wide variety of high-rated manufactured goods."

Since the advent of the motor truck, the W. P. executive said, long-haul transportation has become the major function of the railroads. The loss of the high-rated transcontinental traffic to truck lines, he added "would leave but little future for the railroads except in the transportation of the low-rated commodities which the motor truck carriers generally avoid.

"Any substantial diversions of this long-distance traffic would undoubtedly eventually result in curtailment of service and impose a burden on the traffic that remained to the railroads. This remaining traffic necessarily would have to bear the loss of revenue entailed—in other words the remaining traffic would have to pay higher freight rates."

Emergency Board on T.&P.

President Truman has created an emergency board to investigate a dispute between the Texas & Pacific and those of its employees who are represented by the four train and engine service brotherhoods—the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen & Enginemen, Order of Railway Conductors, and Brotherhood of Railroad Trainmen. The dispute involves a large docket of grievances, most of which are within the jurisdiction of the National Railroad Adjustment Board.

Members of the emergency board are Chairman Frank M. Swacker, attorney of New York; Paul G. Jasper, chief justice of the Supreme Court of Indiana; and Thomas F. Gallagher, associate justice of the Supreme Court of Minnesota. They were scheduled to begin public hearings at Dallas, Tex., on February 20.

American-Swedish News Exchange, Inc.

To permit loading or unloading of freight cars at locations other than established freight stations, the Swedish State Railways have developed a special trailer, or cradle, on which either loaded or unloaded cars can be transported on streets or highways. Each trailer has 16 wheels, eight outside and eight inside. Cars are pulled on to the trailer by a mechanical hoist

Hearing in Eastern L.C.L. Case Now Set For April 25

Division 2 of the Interstate Commerce Commission has further postponed, from February 21 until April 25, the further hearing in the reopened No. 29770 proceeding wherein eastern railroads are proposing increases in their rates on l.c.l. and any-quantity traffic. The postponement order fixed April 3 as a new deadline for service by protestants of copies of their evidence.

Sawyer Rejects Offer to Lease Federal Barge Lines

Secretary of Commerce Sawyer announced on February 15 that he had rejected a proposal by a group of private carriers for leasing the transportation facilities of the government-owned Inland Waterways Corporation. His action, he said, was based on conclusions to the effect that the proposal did not make adequate provision for rehabilitating the properties to continue the type of service called for, or provide a satisfactory basis for termination of the government operations involved (see *Railway Age* of January 28, page 43).

Ask Motor Carriers to Drop "Volume Minimum Weights"

A recommendation of the National Classification Board that all volume minimum weights in the National Motor Freight Classification be eliminated, and "weight factor numbers" published in their stead, has been approved by the trucking industry's National Traffic Committee. By application of the Classification's Rule 34, the new "weight factor numbers" would become operative in certain territories, based on the table of truckload minimum weights most adapted to particular areas of operation.

In approving the recommendation of the board the National Traffic Committee pointed out that the publication of weight factor numbers is not altogether new. Such numbers have already been assigned to a considerable number of commodities, particularly those of a light and bulky nature. Joseph C. Colquitt, chairman of the board, said it would be impossible to change the entire classifi-

cation at one time and pointed out that it must be a gradual process since the densities and loadabilities of each of the thousands of involved articles must be ascertained if the proper weight factor number is to be assigned to the commodity.

Freight Car Loadings

Loadings of revenue freight in the week ended February 11 totaled 568,841 cars, the Association of American Railroads announced on February 16. This, reflecting further cuts in coal loadings, was a decrease of 43,683 cars, or 7.1 per cent, below the previous week, a drop of 130,601 cars, or 18.7 per cent, under the corresponding week last year, and a decline of 165,029 cars, or 22.5 per cent, below the equivalent 1948 week.

Loadings of revenue freight for the week ended February 4 totaled 612,524 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, February 4

District	1950	1949	1948
Eastern	115,338	130,625	135,885
Allegheny	121,630	149,472	152,035
Pocahontas	43,725	57,938	62,696
Southern	115,052	115,767	129,421
Northwestern	65,881	71,858	83,095
Central Western	97,724	105,928	121,703
Southwestern	53,174	50,555	62,101
Total Western Districts	216,779	228,341	266,899
Total All Roads	612,524	682,143	745,936
Commodities:			
Grain and grain products	40,388	38,514	39,062
Livestock	7,349	9,781	9,765
Coal	105,346	155,155	174,673
Coke	11,413	15,619	14,824
Forest products	32,275	29,448	40,270
Ore	11,722	11,375	10,878
Merchandise l.c.l.	81,946	93,182	105,965
Miscellaneous	322,085	329,069	351,499
February 4	612,524	682,143	746,936
January 28	636,415	679,302	726,345
January 21	618,950	709,837	771,139
January 14	631,018	733,865	808,308
January 7	506,947	721,507	830,810
Cumulative total 5 weeks	3,005,854	3,526,654	3,883,538

In Canada.—Carloadings for the week ended February 4 totaled 67,737 cars, compared with 64,033 cars for the previous week, and 72,788 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 4, 1950	67,737	28,971
February 5, 1949	72,788	32,176
Cumulative totals for Canada:		
February 4, 1950	315,986	139,215
February 5, 1949	360,660	158,128

I.C.C. Refuses to Reconsider Ruling on Wool-Mohair Rates

The Interstate Commerce Commission has denied a petition in which the railroads asked for reconsideration of the commission's October 20, 1949, order prescribing general reductions in freight rates on wool and mohair. The denial order also embodied the commission's refusal to postpone further the effective date of the required adjustment.

Thus the new rates will become effective April 10. The proceeding is No. 28863, and the commission's report was noted in the *Railway Age* of October 29, 1949, page 51. The original effective date of the accompanying order was Februray 10, but the postponement to April 10 was subsequently granted to allow time for the commission's action on the petition for reconsideration.

Sets Schedule for Publishing Rate Increases in Basic Tariffs

The Ex Parte 162 and Ex Parte 166 freight-rate increases, except those involving class rates and traffic subject to classification exceptions, must be published in basic railroad tariffs by September 30, 1952, the Interstate Commerce Commission stipulated in a February 9 order by Commissioner Alldredge.

While the order is directed to Ex Parte 162 and Ex Parte 166 increases, the railroads, in complying with it, are expected also to incorporate Ex Parte 168 increases into the basic tariffs. This would end complexities which have resulted from publication of these post-war general increases in master tariffs with connecting-link supplements. Presumably, class rates and exceptions traffic were exempt because of pending class-rate and uniform-classification cases —Nos. 28300 and 28310.

The order prescribes a schedule for reissuance of basic tariffs with the increases incorporated in them, meanwhile fixing September 30, 1952, as the expiration date of the special permissions (Nos. 31715 and 3500) wherein the commission has granted relief from its tariff-publishing rules to permit the short-term publications. The carriers or their agents will be required, as the order put it, "to reissue each month, beginning with April 1, 1950, not less than 3 1/3 per cent of the total number of pages contained in all tariffs supplemented under these special permissions (except tariffs of class rates and of classification exceptions) until all tariffs so supplemented shall have been reissued, the percentage to be computed upon an average of 3 1/3 per cent for each month in each three-month period during the thirty-month period authorized by this amendment."

The commission further ordered the carriers and agents to report on or before April 1 the total number of pages of the tariffs involved which have not been reissued; and to report each three months thereafter "the number of pages of said tariffs reissued to include all of the post-war general increases, and show the percentage relationship to the total not reissued on April 1, 1950."

The complex situation which the commission seeks to clarify was described in a September 10, 1948, letter which W. B. Hammer, chief of its section of tariffs, wrote to Walter J. Kelly, vice-president of the Association of American Railroads. Mr. Hammer said: "Today the railroads and the shipping public, in attempting to quote and to verify rates, must commence with ta-

"The Frankenstein Monster"

An Associated Press dispatch from London reports that Britain's state-owned transport system is creating a weekly deficit of $1,400,000. The British transport commission estimates by the end of 1950—after three years of state ownership—rising losses will total between $140,000,000 and $168,000,000.

The commission . . . reported the quagmire deficit before a tribunal hearing, and appealed for "exceedingly prompt action" on its request for a 16 2/3 per cent hike in rail freight rates to bring in an additional $78,400,000 revenue annually.

Although this story in most cases was buried in the back pages of our daily press, we consider it one of the most important stories so far in the new year. It shows what right thinking persons already know: namely, that state socialism, whether applied to railway transportation or any other industry, creates a financial Frankenstein monster that devours not only the personal liberties of its subjects, but also their pocketbooks.

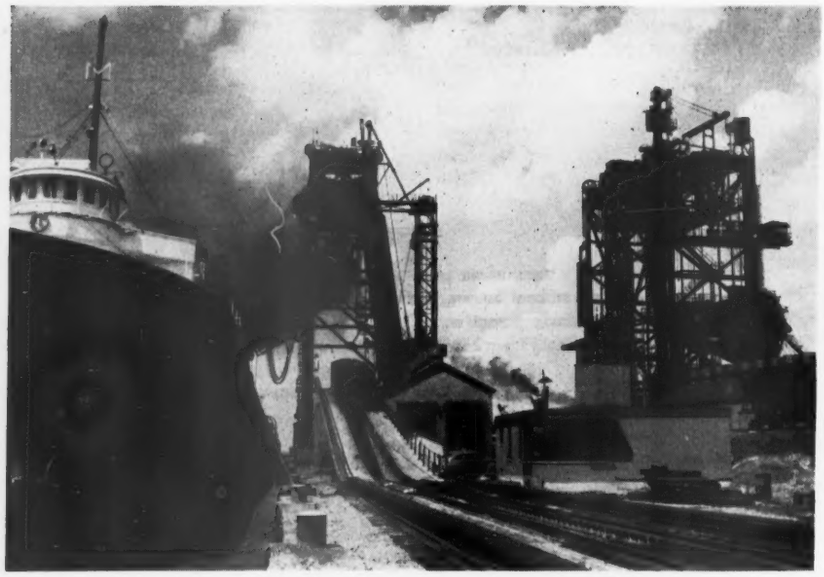
In every phase of their economic life under state socialism, Britain is running further in the "red." In desperation, England has appealed to this country for more financial aid in the face of rising costs under socialized industry.

However, in the last analysis, the British panacea to their economic ills must come from within. Until the country returns to the system of free enterprise, there will be no solution to its economic ills. The costs are mounting constantly. The Frankenstein monster, state socialism, is gouging them of every resource, and putting them further into the red column, both financially and otherwise.

We might add the condition parallels that of Russia. The cost of the socialized state is always the same, bottomless deficits, regimentation, and the loss of all personal freedoms.

Both the British form and the Russian form are the same thing, state communism. The philosophy is the same; the bitter fruit is reaped from the same vine. England, however, is not in quite so deeply. The people when they vote in a new government have a chance to vote out the internal monster that is destroying their resources and manner of living. In Russia, which has been socialized to the last degree, "a free ballot" just doesn't exist.

—A message by Cleve H. Pomeroy, company president, in National News, general office news magazine of the National Malleable & Steel Castings Co.



The joint terminal facilities of the New York Central and the Baltimore & Ohio at Toledo, Ohio, have speeded handling of Great Lakes coal and iron ore cargoes

riffs many of which were poorly compiled initially, and nearly all of which have been largely eroded by extensive over-supplementation, and then successively increase the rates determined from these tariffs by the use of two 'master' tariffs, each of bewildering complexity. The result is that it is invariably difficult and often impossible for even an expert to say, with assurance, what the rate or charge is for any service which the tariffs purport to cover."

Knudson Named to I.C.C.; Mitchell Reappointed

President Truman on February 14 sent to the Senate his nominations of James K. Knudson for membership on the Interstate Commerce Commission, and of Commissioner Richard F. Mitchell for a new seven-year term expiring December 31, 1956. Mr. Knudson, an attorney on the staff of the Department of Agriculture, has been in charge of that department's presentations in railroad rate cases and other proceedings before the commission.

He was nominated as successor to the late Carroll Miller for the remainder of a term expiring December 31, 1953. Meanwhile, the President took no action with respect to Commissioner Clyde B. Aitchison, whose term expired December 31, 1949, and who, like Commissioner Mitchell, is now serving under provisions of the Interstate Commerce Act which stipulate that a sitting commissioner shall remain in office until his successor qualifies.

Mr. Aitchison's continuing service is also pursuant to a Presidential order which exempts him from the civil-service rule requiring government employees to retire at the age of 70. He is in his 75th year and is the senior member of the commission, on which he has served since September, 1917. Commissioner Mitchell is 60 years old and has been a member of the commission since January, 1947, when he was appointed by President Truman for the unexpired term of the late Claude R. Porter.

Railroad Fined $3,000

Fines totaling $3,000 were imposed upon the Missouri Pacific on February 10 in the federal district court for the eastern district of Missouri, following the road's plea of nolo contendere to three counts of a 10-count information filed against it. The remaining 7 counts against the M.P. were dismissed after payment of the $3,000. The information had charged the road with "failure to strictly observe its demurrage tariff by failing promptly to send constructive placement notices, and with granting concessions by failure to collect demurrage charges from a large receiver of grain at St. Louis, in violation of Section 1 of the Elkins Act."

1949 Safety Record Was Best Yet—Faricy

The railroads last year made the "best passenger and employee safety records in their history," William T. Faricy, president of the Association of American Railroads, announced on February 12.

Mr. Faricy said that passenger fatalities resulting from collisions, derailments and other train accidents in 1949 numbered only one for each 5,875,000,000 passenger-miles. Total fatalities to passengers on trains were 0.07 for each 100,000,000 passenger-miles or only one fatality for each 1,400,000,000 miles traveled, he stated. This passenger fatality rate, Mr. Faricy continued, represents a decrease of 42 per cent under 1939.

The railroads performed an estimated 35,250,000 passenger miles of service in 1949, and there were only six passenger fatalities resulting from train accidents and but 25 passenger fatalities from all causes, the A.A.R. president declared. The fatality rate for railroad employees was 0.13 for each million man-hours worked, which is the lowest rate for any year on record, Mr. Faricy concluded.

A few days before Mr. Faricy issued his statement the Interstate Commerce Commission had made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for December, 1949, and the 12 months of last year. The compilation, which is subject to revision, follows:

Item	Month of December		12 mos. ended with December	
	1949	1948	1949	1948
Number of train accidents*	755	954	8,594	11,893
No. of accidents resulting in casualties	46	64	483	622
No. of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	84	100	1,230	1,370
Injured	55	73	1,069	1,121
Passengers on trains:				
(a) In train accidents*				
Killed	—	—	6	19
Injured	4	33	496	934
(b) In train-service accidents				
Killed	3	2	19	24
Injured	154	175	1,997	2,584
Travelers not on trains:				
Killed	1	4	8	12
Injured	94	99	795	1,018
Employees on duty:				
Killed	41	58	402	568
Injured	1,773	2,497	22,083	30,857
All other nontrespassers:**				
Killed	190	202	1,649	1,775
Injured	645	758	5,647	6,577
Total—All classes of persons:				
Killed	319	366	3,314	3,768
Injured	2,725	3,635	32,087	43,091

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $250 to railway property in 1948. Beginning January 1, 1949, this minimum was raised to $275. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	176	193	1,507	1,612
Injured	491	551	3,775	4,255

January Employment

Railroad employment decreased 0.06 per cent—from 1,148,968 to 1,148,317—from mid-December to mid-January, but the mid-January total was 8.5 per cent below that of January, 1949, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index of employment, based on the 1935-1939 average as 100, was 117 for January, compared with 114.4 in December, and 127.9 in January, 1949.

January employment was below that of the previous month in four groups and up in three groups. The decreases ranged from 3.03 per cent for the train

and engine service group to 0.05 per cent for the group embracing executives, officials, and staff assistants. The largest of the three increases, 3.98 per cent, was in the maintenance of equipment and stores group, while the other two, of 0.54 per cent and 0.87 per cent, respectively, were in the professional, clerical, and general group and in the transportation group embracing yardmasters, switch-tenders and hostlers.

Compared with January, 1949, there were decreases in all groups. They ranged from 14.02 per cent for the maintenance of way and structures group to 1.92 per cent for the group embracing executives, officials, and staff assistants.

Test Budd Diesel Rail Car on North Western Suburban Lines

On February 14, the Budd Company's rail Diesel car (RDC-1) began a week of tests on all three suburban divisions of the Chicago & North Western. R. L. Williams, North Western president, said that if the car comes up to expectations, the purchase of several for use in suburban service "will be given serious consideration. We have wanted to try out the potentialities of this passenger car in suburban service ever since it was constructed." The light-weight, self-propelled car, was described and illustrated in the *Railway Age* of September 17, page 68.

Three Roads Combine to Speed Freight Service on West Coast

Faster freight service between southern California, the Bay region and the Pacific northwest has been announced by the presidents of the Great Northern, Western Pacific, and the Atchison, Topeka & Santa Fe, joint operators of the "Bieber Route," now to be called "The Inside Gateway." A full day's saving in freight delivery time will be effected on shipments between Spokane, Wash., and Seattle on the north and Los Angeles, Cal., on the south, with corresponding benefits to intermediate points. Under the new schedule two trains will operate each way daily over the entire route.

The new schedule followed a recent tour of president F. G. Gurley of the Santa Fe, F. J. Gavin of the G.N., and F. B. Whitman of the W. P. over the complete 1,484-mile route. During their inspection tour they conferred with civic and industrial leaders at various points. The Bieber route runs from Los Angeles through Bakersfield, Fresno, Stockton, Oroville, Klamath Falls, Ore., Bend, Portland, Tacoma, and Seattle.

Mobile Battery Chargers for Subs

Two new mobile battery chargers for submarines, each of which will be installed in a 50-ton railroad box car, are now being built for the U. S. Navy by the General Electric Company.

The units, one for the east coast and one for the west coast, will be used to recharge storage batteries from which submarines draw power for underwater operation. The mobile chargers will be rolled alongside docked submarines and used for recharging batteries from shore power sources.

Special 60-ft. cars are being built for the equipment by the Greenville Steel Car Company. Each car will hold a three-unit motor-generator set and two two-unit motor-generator sets. This equipment will convert the 2,300-volt alternating current available at charging stations into lower-voltage, direct current. This low-voltage d.c. power also will be used for the submarine's lighting systems and general power needs while it is in port. G. E. switchgear and control will regulate the incoming 2,300-volt shore power and d.c. power supplied to the submarines and will safeguard the system against electrical short circuits.

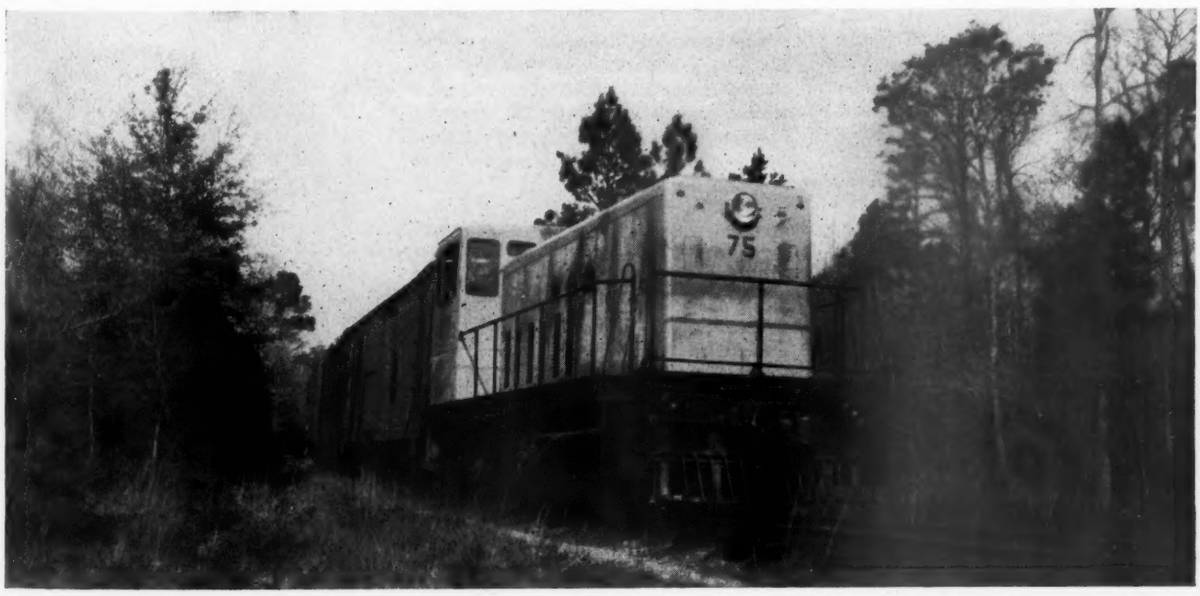
The equipment is being built in G.E. plants in Schenectady, N. Y., Fort Wayne, Ind., and Philadelphia, Pa., and will be assembled in the company's Boston, Mass., service shop. When completed, the charging plant cars will be stationed in naval shipyards in Bremerton, Wash., and Charleston, S. C. They will be ready for service next spring.

December Truck Traffic

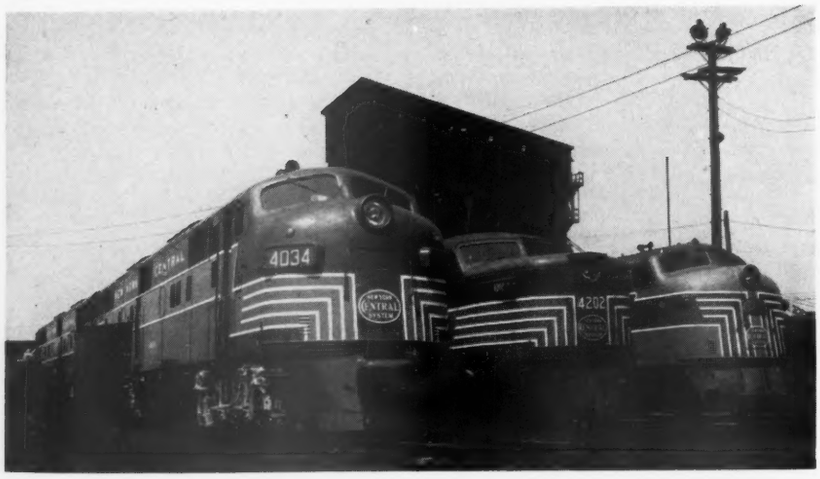
Motor carriers reporting to the American Trucking Associations transported in December, 1949, 2,997,926 tons of freight, a decrease of 3.7 per cent below the previous month's total of 3,112,452 tons, but 2.7 per cent above the 2,919,131 tons hauled in December, 1948. The figures, according to the A.T.A., are based on comparable reports from 319 carriers in 44 states.

Dr. Munger Directs Air-Pollution Research at Battelle

Dr. Hamnett P. Munger has been appointed by the Battelle Memorial Institute, Columbus, Ohio, to co-ordinate its air-pollution research activities and to act in a liaison capacity between Battelle and industry. Research under Dr. Munger's supervision will include studies of the mechanism for air contamination and methods for its reduction, utilization of industrial wastes that might pollute the air, effects of air pollution on plant life and building materials, effects of weather and plant site upon the concentration of wastes and other technical and economic studies designed to help industry solve the problems that



Alco-G.E. 70-ton Diesel-electric locomotive of the Marianna & Blountstown on part of its run through Calhoun county, Florida



New York Central System's fleet of Diesel-electric locomotives, powering more than 30 per cent of the road's train-miles, recently was increased by orders for 137 additional units. Here are shown three units of the fleet; in the center is a product of the American Locomotive Company, flanked on each side by a product of the Electro-Motive Division of General Motors Corporation

arise with its efforts to control air contamination.

Air-pollution research at Battelle has included extensive study both of the oil- and coal-fired steam locomotive. At the present time the institute has under way a program to develop ways to reduce cinder emission from coal-fired steam locomotives.

Effective Date of Rail-Barge Differentials Again Set Back

The Interstate Commerce Commission has further postponed, from March 31 until May 31, the effective date of its order requiring railroads and water carriers on inland waterways to establish through routes and joint rail-water rates reflecting differentials under all-rail rates. The postponement, announced in a February 7 order, was sought by the railroads to enable them to appeal the case to the United States Supreme Court. The appeal will be from the recent decision of a three-judge federal court at Chicago, which upheld the commission.

First U. S. Trade Fairs To Be Held This Year

The first international trade fair ever arranged in the United States is to be held at Chicago August 7-19, according to recent announcements by the Department of Commerce and by the fair headquarters in Chicago's Merchandise Mart. Plans are also reported to be under way for similar fairs at Detroit, Mich., in October or earlier and at Atlantic City, N. J., beginning November 20. Each of the three fairs is expected to last about two weeks. Available exhibit space is said to total from 500,000 to 1,000,000 sq. ft. at Chicago, 700,000 sq. ft. at Detroit, and 500,000 sq. ft. at Atlantic City.

International trade fairs have been held more or less regularly in various European cities for many hundred years, but the first one ever held in the western hemisphere was at Toronto, Ont., in 1948. The Toronto fair has now become an annual event, which will be held for the third time from May 29 to June 9. Canadian railroads, "in recognition of the importance of the . . . fair to the business and economic life of Canada," are offering special passenger rates of fare-and-one-half from any point in Canada to the fair and return. Officials of the Canadian fair are said to welcome establishment of similar exhibitions in the United States, on the theory that many potential exhibitors from other countries will be more likely to attend a series of fairs than any single one.

Won't Reconsider Finding Of No Rail "Rates" on Express

The Interstate Commerce Commission has denied a petition wherein the postmaster general sought reconsideration of the commission's July 29, 1949, decision which held, in effect, that there are no railroad "rates" on express matter. The decision, in No. 30177, considered and denied a petition of the postmaster general, asking the commission to ascertain the "rates paid the railroads" by the Railway Express Agency for the carriage of express matter. The postmaster general had requested the information so that he could arrange for the transportation of mail matter at such rates (see *Railway Age* of August 20, 1949, page 69).

N.I.T. League Will Hold Special Meeting March 8

The National Industrial Traffic League will hold a special meeting of its members at the Statler Hotel, St. Louis, Mo., on March 8. The meeting will be preceded on March 7 by a meeting of the league's executive committee.

These plans were announced by Executive Secretary E. F. Lacey in a recent notice which said matters of "vital importance" to League members would be considered and acted upon at the meeting. The notice went on to say such matters include the following:

(1) Proposed revision of class rates in Eastern territory—I.C.C. Docket No. 29770.

(2) Pacific coast terminal rates, now under suspension in I.C.C. Docket No. 5754.

(3) Ex Parte No. 104, Part II, terminal allowance developments.

(4) Proposed revision of Classification Rule 34, in I.C.C. Docket No. 30280.

(5) Railway mail pay—before I.C.C. in Docket No. 9200.

(6) Accumulated depreciation for railroads.

SUPPLY TRADE

The **Whiting Corporation,** with manufacturing facilities in Harvey, Ill., and Los Angeles, Cal., has opened its own district sales office in the M & M building, Houston, Tex. **Elmore C. Brown** has been appointed district manager for the Houston territory, to handle the sale of Whiting foundry equipment, cranes and railroad equipment, and the Swenson

Elmore C. Brown

line of evaporators, spray dryers and chemical plant equipment. Mr. Brown was graduated from the University of Michigan in 1933 with a B. S. degree in engineering. He has been associated with Whiting for more than ten years and for the past five years has been a sales engineer in the Chicago district office.

J. J. Hunkele, Jr., formerly district representative, eastern sales division, **Caterpillar Tractor Company,** has been appointed special representative on railroad sales.

J. C. Elmburg, manager of the Atlanta (Ga.) branch of **Fairbanks, Morse & Co.,** has been transferred to Portland, Ore.,

succeeding **Howard Oxsen**, who is returning to San Francisco, Cal., as manager of Diesel engine sales in that area. **George A. Hawkins**, manager of the company's sub-branch at Minneapolis, Minn., has been appointed branch manager at Atlanta.

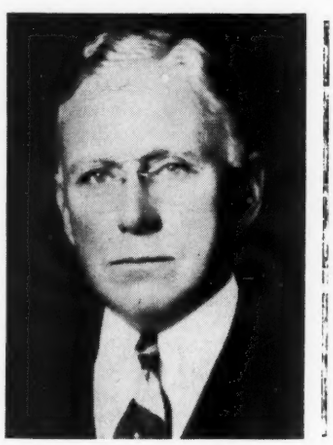
The **Briggs-Weaver Machinery Company**, 300 So. Wayside drive, Houston, Tex., has been appointed an accredited distributor of the Republic rubber division, **Lee Rubber & Tire Corporation**. Briggs-Weaver will represent Republic in Houston and the surrounding area and will carry complete stocks of Republic belting, hose and packing.

P. W. Voss & Associates, 918 South Michigan avenue, Chicago, successors to Lindsley & Voss, have been appointed sales representative for the **Automatic Transportation Company**, Chicago manufacturer of electric industrial trucks. Voss will handle Automatic's Skylift and Transporter lines of materials-handling trucks.

OBITUARY

Walter P. Janicki, assistant to vice-president of the Ramapo Ajax division of American Brake Shoe Company, with headquarters at Los Angeles, Cal., died at his home in Huntington Park, Cal., on February 9.

Frederic A. Schaff, chairman of the board of Combustion Engineering—Superheater, Inc., whose death was reported in *Railway Age* of February 11, page 61, attended the Culver Military Academy and in 1907 was graduated in mechanical engineering from Purdue University. He spent the next three years with the Boston & Albany and the New York Central after which he was engaged in irrigation and power engineering in Texas. In 1913 he joined the service



Frederic A. Schaff

department of the Locomotive Superheater Company and later was appointed assistant to the president. He was elected vice-president in 1916 and in 1930 was elected president of the Superheater Company, successor to Locomotive Superheater. Mr. Schaff also was elected president of the Combustion Engineering Company, Inc., in 1933, and chairman of the board in 1940. When Superheater and Combustion Engineering merged in January, 1949, he was elected chairman of the board of the combined company.

John Buck, assistant works manager of the Scullin Steel Company, St. Louis 10, Mo., died on February 9. Mr. Buck was 59 years old.

Lee Arthur Ginzel, secretary and advertising director of the Baker Manufacturing Company, Springfield, Ill., died on January 16.

ORGANIZATIONS

The **Western Association of Railway Tax Commissioners**, at its annual meeting on February 7, at Chicago, elected these officers for 1950: President—W. C. Deaton, industrial & tax commissioner, Elgin, Joliet & Eastern; vice-presidents —W. K. Bush, general tax agent, Chicago, Burlington & Quincy; W. E. Kline, real estate & tax commissioner, Missouri Pacific; and G. E. Brandon, land & tax commissioner, Minneapolis & St. Louis; and secretary-treasurer—A. B. Olson, secretary and auditor, real estate and tax agent, Chicago Union Station.

The March 9 motor carriers night of the **Metropolitan Traffic Association of New York, Inc.**, will feature a traffic forum at 7 p.m.

Harry Timmerman of the Zellerbach Paper Company has been elected president of the **San Francisco Traffic Club** for 1950. Other new officers are: Vice-president, Paul Weeks, Flynn Forwarding Company; secretary, L. Stolzman, Western Pacific; treasurer, George Kozomian, California Motor Express. T. M. West, Association of American Railroads, president of the traffic club in 1949, has been elected chairman of the executive committee.

The New York division of **Railroad Enthusiasts, Inc.**, will hold its next meeting at 7:45 p.m. on February 23 in room 5928 Grand Central Terminal, New York. "The Chicago & North Western" will be the subject of an address by Frank V. Koval, assistant to the president of that road. The C.&N.W.'s movie, "Song of the Pioneer," will be shown.

The **Railroad General Agents Association of San Francisco, Cal.**, at its meeting on February 6 elected the following officers for 1950: President, G. L. Wiegner, Chicago Rock Island & Pacific; first vice-president, H. R. McCorkel (district freight representative) Baltimore & Ohio; second vice-president, G. C. Seaman, Delaware & Hudson; third vice-president, J. K. Speight, Denver & Rio Grande Western; and secretary-treasurer, A. J. Charlton, Toledo, Peoria & Western.

Major General Carl R. Gray, Jr., administrator of veterans affairs, who served during World War II as director of the Military Railway Service in the European theater, was guest speaker at the forty-third annual dinner of the **Traffic Club of Washington, D. C.**, which was held at the Statler Hotel in that city on February 8. He described the organization of the M.R.S. and gave a highlight account of its wartime service in Africa, Italy, France, and Germany.

Presiding at the dinner was the club's president—William E. Hayghe, acting chief, Division of Traffic and Utilities, Federal Supply Service, General Services Administration. He said the attendance was greater than that of any previous annual dinner. J. J. Kelley, manager, Military Transportation Section, Car Service Division, Association of American Railroads, was the toastmaster. Among those at the head table were four members of the Interstate Commerce Commission — Chairman J. Monroe Johnson and Commissioners John L. Rogers, Richard F. Mitchell, and Hugh W. Cross; J. H. Aydelott, vice-president of the A.A.R.; J. M. Hood, president of the American Short Line Railroad Association; and Robert M. Drysdale, executive vice-president of the Federation for Railway Progress.

OVERSEAS

British Railways Seek Closer Cooperation with Employees

To promote "greater cooperation in the running of British Railways and good relations between the management and the staff in all grades and departments," the British Railway Executive will in future undertake to: (1) give prior indication to employees of contemplated lines of action; (2) arrange for discussion of such proposals with employee representatives at appropriate levels; (3) give careful consideration to representations from employees in regard to such proposals; and (4) notify employees of decisions reached by management, and give reasons therefor, in cases where it is not practicable or desirable to give effect to staff representations.

The new arrangements for management-employee consultation will not interfere with established negotiating machinery with respect to wages, salaries and working conditions, but "will embrace subjects related to actual administration of British Railways outside the defined scope of such negotiations." The Railway Executive's announcement of the new policy states that "there will be con-

sultation at all levels corresponding to those of the negotiating machinery," and that the executive and officers of employee unions have "mutually agreed to give every assistance" to make the plan run smoothly.

French West Africa.—A $110,000,000 modernization program has been authorized for this country's railroad system, according to a recent issue of Foreign Commerce Weekly. Included in the program is the purchase of 50 600-hp. and 16 300-hp. Diesel-electric locomotives, 36 300-hp. auto-rail cars, 60 first-class coaches, 50 second- and third-class coaches, 800 freight cars and 375 other cars. Also included are such projects as repair and extension of present lines, installation of new main and branch lines, building and repair of stations and shops and construction of 1,000 dwellings for railroad personnel.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

N.Y.C. Orders 4,500 Freight Cars Costing $23,700,000

The New York Central System has ordered 4,500 freight cars at an estimated total cost of $23,700,000. This is the largest freight-car order since the same road purchased 5,350 cars in December, 1948 (see *Railway Age* of December 25, 1948, page 54). Included in the new order are 1,500 55-ton, 40½-ft. steel box cars to be built by the Pullman-Standard Car Manufacturing Company, 500 55-ton, 50½-ft. steel box cars, 1,000 55-ton, 40½-ft. steel box cars and 1,500 70-ton, 52½-ft. gondola cars with steel floors, all of which will be constructed by the Despatch Shops. The last two lots are for the Pittsburgh & Lake Erie and the other cars are for the New York Central. Deliveries are scheduled to begin in May and to be completed by the end of the year. An inquiry by this road for 1,000 to 3,500 freight cars was reported in the *Railway Age* of January 28, page 50.

LOCOMOTIVES

The **Chicago & North Western System** has ordered 61 Diesel-electric locomotive units at a cost of nearly $10,000,000, with delivery scheduled to begin in April. Seven of the locomotives are for the North Western's subsidiary, the Chicago, St. Paul, Minneapolis & Omaha. The order for the parent company includes 30 1,500-hp. freight "A" units and 4 2,250-hp. passenger "A" units, from the Electro-Motive Division of General Motors Corporation; 5 1,600-hp. road switchers and 2 1,200-hp. switchers, from Fairbanks, Morse & Co.; and 3 1,600-hp. road switchers to be equipped with heating boilers for use in passenger as well as freight service and 10 1,000-hp. switchers, from the American Locomotive Company. The Omaha line will receive 6 1,500-hp. freight "A" units from Electro-Motive and 1 1,600-hp. road-switcher from Fairbanks, Morse.

The **Cincinnati Union Terminal** has ordered 2 750-hp. Diesel-electric switching locomotives from the Lima-Hamilton Corporation.

The **Union Pacific** has ordered 10 2,250-hp. Diesel-electric passenger units and 25 1,200-hp. terminal switchers from the Electro-Motive Division of General Motors Corporation at a cost of $4,875,000. Delivery of the locomotives will begin in August.

IRON & STEEL

The **Atlantic Coast Line** has ordered 50,000 net tons of rails from the Tennessee Coal, Iron & Railroad Co.

The **Bessemer & Lake Erie** has ordered 3,450 tons of rails from the Carnegie-Illinois Steel Corporation.

The **Delaware & Hudson** has ordered 3,915 tons of rails from the Bethlehem Steel Company.

The **Richmond, Fredericksburg & Potomac** has ordered 8,000 net tons of rails from the Bethlehem Steel Company.

ABANDONMENTS

Applications have been filed with the Interstate Commerce Commission by:

Chicago & North Western.—To abandon 17.4 mi. of branch line between Manning, Ia., and Audubon, and 35.6 mi. of branch line between Narenta, Mich., and Felch.

Des Moines & Central Iowa.—To abandon operations over 4.7 mi. of Des Moines Street Railway tracks between South Des Moines, Ia., and Fort Des Moines. The D.M.&C.I. has been handling freight traffic over the line under an oral arrangement with the street railway since 1902, but the latter has now abandoned operations over the line and has notified the D.M.&C.I. either to abandon operations also or buy the line.

Division 4 of the I.C.C. has **authorized:**

Atlantic Coast Line.—To abandon 37.8 mi. of line from Sumter, S. C., via Elliott to Darlington, and 9.6 mi. of a branch between Elliott and Bishopville. Passenger service over this line was discontinued in 1941, but freight service is provided on a daily-except-Sunday basis. The commission noted that a paved state highway parallels the line for its entire length, and that both the A.C.L. and the Seaboard have other rail lines between Sumter and Darlington. The commission denied the A.C.L.'s application to abandon the line in 1945, but found that conditions have since changed with 7 common-carrier truckers and at least 26 contract carriers handling freight in and out of the area. The authority to abandon the line was given subject to conditions that it not be abandoned prior to April 15, and that the A.C.L. agree to sell prior to that date any tracks or facilities to anyone offering to purchase them for continued operation at not less than net salvage value. The town of Bishopville will continue to be served by the Seaboard, and the I.C.C. report noted that this road will probably purchase A.C.L. terminal facilities there.

Louisville & Nashville.—To abandon 1.6 mi. of line near McRoberts, Ky. The line formerly served a coal mine, but operation of the tipple at the mine ceased in 1946.

Texas Central—Missouri-Kansas-Texas.—The T. C. to abandon, and the M-K-T to abandon operations over, 12.8 mi. of main line in Hill and Bosque counties, Tex. Parts of the line will be submerged when the government-constructed Whitney dam and reservoir on the Brazos river is completed. The government will construct a substitute line, 11.3 mi. long, which the T.C. will acquire and the M-K-T will operate as replacement for the abandoned segment. The new line is expected to be completed about May 1, 1951.

CONSTRUCTION

Alaska. — This government-operated road has awarded a contract amounting to $1,944,655 for rail relay and $4,900,412 for bank widening and grade raising, to William A. Smith Company, Kansas City, Kan., and Brown & Root, Inc., Houston, Tex., who are acting as joint contractors. The project was fully described in a feature article in the *Railway Age* of January 22, 1949, page 24.

Atlantic Coast Line.—This road has awarded contracts, estimated costs of which are in parentheses, to the following: Bailes-Sey, Jacksonville, Fla., for work on line abandonment between Fairmont, N. C., and Chadbourn ($28,500); McWatty Construction Company, Augusta, Ga., for a centralized traffic control signal tower at Manchester, Ga. ($26,500); and to Jenkins Brothers Construction Company, Raleigh, N. C., for grading and drainage work on joint A.C.L.-Southern track facilities to serve an electric power plant near Goldsboro, N. C. (the Coast Line's share of this work will cost $15,250). The following projects, at the indicated probable costs, have been authorized: Improving drawbridge machinery over the Savannah river between South Carolina and Georgia ($21,670); track facilities at Waycross, Ga., ($121,161) and at Atlanta ($157,306). Coast Line's portion of the joint track facilities at Goldsboro, mentioned above, will cost $139,000.

Baltimore & Ohio.—This road has awarded a contract to the Dravo Corpor-

ation, Pittsburgh, Pa., for the manufacture and installation of two ore-handling machines and a belt conveying system in the new $5,000,000 ore pier at Baltimore, Md. (see *Railway Age* of January 14, page 47).

Baltimore & Ohio.—This railroad has contracted with George Vang, Inc., Pittsburgh, Pa., for construction of bridge 803 at Rollyson, W. Va. A contract has been awarded to the Empire Construction Company, Baltimore, Md., for construction of bridge 8-A at Halethorpe, Md. Estimated total cost of both projects is $190,000.

Canadian National.—This road has awarded a contract to Western Bridge & Steel Fabricators, Ltd., Vancouver, B. C., for the steelwork of a 16-story addition to the MacDonald Hotel in Edmonton, Alta. The new building will contain 300 guest rooms, a shopping center, convention and banquet halls and an air-conditioned cafeteria. Estimated cost of the new structure is between $4,000,000 and $5,000,000, and it is estimated that work will be finished by spring, 1952.

New York Central.—This road has awarded a contract to Combustion Engineering-Superheater, Inc., New York, for a steam generating unit, using a combustion stoker, for the West Shore engine house, East Buffalo, N. Y.

New York, New Haven & Hartford.—The Mercer Storage Company has announced completion of negotiations with this railroad for leasing a new automobile unloading and storage facility at Haswell street off Eastchester road in the Bronx, N. Y., in what formerly was known as the New Haven's Westchester yards. The facility, it was said, will be the largest in New York and will be ready for use March 1. The railroad is building an unloading platform which incorporates automobile servicing facilities making it possible for each automobile to be pushed over the service pit, checked, oiled and serviced as fast as unloaded. Sufficient land is included in the facility to provide for storing 5,000 automobiles at one time. Because of the large unloading capacity, unloading time will be reduced, thus permitting rapid return of Evans-equipped freight cars to the factory for re-use.

Southern.—This road has begun work on a $2,000,000 project involving extensive alterations and improvements to its Press Street yards in New Orleans, La. Completion of the project, which is part of an over-all program brought about by the scheduled construction of a Union Passenger Terminal in New Orleans, is contingent upon the terminal program. Plans for the work at Press street call for increasing the capacity of the classification yards and increasing the length and number of tracks in the receiving and forwarding yards. Also included in the program is construction of a new Diesel engine terminal and other Diesel facilities to replace the Barnadotte shops and yards which will be closed when the new facilities are completed.

The Southern's freight station and warehouses at Basin street, and tracks serving industries, will not be affected. A new track providing a direct connection between the Press Street yard and the New Orleans Terminal Company's line to Chalmette slip and Port Chalmette will be constructed. A new office building will be constructed near Galvez and Press streets to house the terminal superintendent, assistant division engineer, special services department, claims department and communications office. Plans call for construction of a yardmaster tower atop the building. The yard will be equipped with a loudspeaker and talk-back system and will be floodlighted for night operation.

FINANCIAL

Chicago, Milwaukee, St. Paul & Pacific.—*Preferred Dividend.*—This road has declared a dividend of $3.25 a share on its series A preferred stock payable March 15 to stockholders of record February 28. Payments totaled $4 in each of the two preceding years. Leo. T. Crowley, chairman, said that after final determination of the road's claims for refunds of certain taxes the directors would consider payment of additional dividends on the preferred stock for those years in which the full dividend was not paid.

Lehigh Valley.—*Extension of Bonds.*—This road is asking I.C.C. permission to extend to June 1, 1968, its first mortgage 4 per cent bonds due June 1, 1950. The outstanding bonds total $4,983,000, of which all but $8,000 are held by the Consolidated Real Estate Company, a wholly owned subsidiary of the L.V., with the balance held by the public. Except for the new maturity date, the indenture of the bonds would remain unchanged. Thus they would continue to bear interest at 4 per cent, and there would be no sinking-fund or redemption provisions. In its application the road said it wishes to keep the issue alive as this would "provide an excellent financing medium in case of a sudden future need for a limited amount of funds." The bonds, originally issued in 1868, were extended in 1898 and 1948 for 50 years and 2 years respectively. During the last two years the Consolidated company has been buying in the bonds at par plus accrued interest.

New York, Ontario & Western.—*Trackage Rights.*—This road is asking the I.C.C. to authorize modification of a trackage rights contract with the Delaware, Lackawanna & Western to increase from $1.50 a train-mile to $2.25 the rate paid by the N. Y. O. & W. to the Lackawanna. The trackage involved is between Scranton, Pa., and Pittston, over which the N.Y. O.&W. is permitted to operate through freights in both directions. In its application, the N.Y. O.&W. noted that the Lehigh Valley, which has a similar contract with the Lackawanna, is also agreeing to pay the $2.25 rate.

Pennsylvania-Lehigh Valley.—*Increase Lehigh & Hudson Holdings.*—The Pennsylvania and the Lehigh Valley have purchased jointly from the Lehigh Coal & Navigation Co. the latter's 20 per cent interest in the Lehigh & Hudson River, thus increasing to approximately 36.5 per cent the P.R.R. and L.V. interest in the L.&H.R. Substantial blocks of L.&H.R. stock also are held by the Delaware, Lackawanna & Western, the Central of New Jersey, the Reading and the Erie.

New Securities

Division 4 of the Interstate Commerce Commission has **authorized**:

Gulf, Mobile & Ohio.—To assume liability for $3,570,000 of series E equipment trust certificates to refinance in part 20 Diesel-electric locomotives and 400 gondola cars originally purchased under conditional sales agreements. Total cost of the equipment, less depreciation as of February 15, 1950, is $4,521,127.20. Under the conditional sales agreements the full purchase price would have been due July 1. The series E certificates refunding this indebtedness through 1964, will be dated February 15, and mature in 14 annual installments of $255,000 each, beginning February 15, 1951. The successful bid for the certificates was made by Halsey Stuart & Co. and 4 associates who bid 99.657 with interest at 2⅛ per cent. Average annual cost of the proceeds to the G.M. &O. will be approximately 2.18 per cent. The certificates were reoffered to the public at prices yielding from 1.25 to 2.425 per cent, according to maturity.

Application has been filed with the I.C.C. by:

Pennsylvania.—To assume liability for $10,200,000 of equipment trust certificates, series Y, the second and final installment of a $20,820,000 issue, the whole of which would finance in part 186 new Diesel-electric locomotives. (See *Railway Age* of January 7). The commission already has authorized issuance of $10,620,000 of the series Y certificates to be applied against 96 of the locomotives. Total cost of the new equipment is estimated at $26,033,700. The certificates which the Pennsylvania now seeks permission to issue would be dated January 1, 1950, and mature in 15 annual installments of $680,000 each, beginning January 1, 1951. They would be sold by competitive bids, with the interest rate to be set by such bids. When all the certificates have been sold, the annual installments on the $20,820,000 issue will be $1,388,000.

Dividends Declared

Alabama & Vicksburg.—3%, semiannual, payable April 1 to holders of record March 8.

Chicago, Milwaukee, St. Paul & Pacific.—$5 preferred, $3.25, irregular, payable March 15 to holders of record February 28.

Delaware & Bound Brook.—50¢, quarterly,

payable February 20 to holders of record February 13.

Fort Wayne & Jackson.—5½% preferred, $2.75, semiannual, payable March 1 to holders of record February 20.

North Pennsylvania.—$1, payable February 25 to holders of record February 18.

Pittsburgh, Youngstown & Ashtabula.—7% preferred, $1.75, quarterly, payable March 1 to holders of record February 20.

Vicksburg, Shreveport & Pacific.—preferred, 2½%, semiannual; common, 2½%, semiannual; both payable April 1 to holders of record March 8.

Average Prices Stocks & Bonds

	Feb. 14	Prev. week	Last year
Average price of 20 representative railway stocks	41.19	44.62	40.13
Average price of 20 representative railway bonds	91.88	91.87	87.72

RAILWAY OFFICERS

EXECUTIVE

R. P. Jobb, whose appointment as assistant vice-president of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of January 28, was born at Waterloo, Ill. He was employed by the St. Louis Southwestern from November 1, 1917, until May 21, 1923, entering the service of the A.C.L.

R. P. Jobb

on the latter date as traveling freight agent at Kansas City, Mo. Mr. Jobb subsequently served as commercial agent at Nashville, Tenn., Richmond, Va., Montgomery, Ala., and Albany, Ga.; general agent at Atlanta, Ga.; assistant general freight agent at Miami, Fla., and manager of development service at Wilmington.

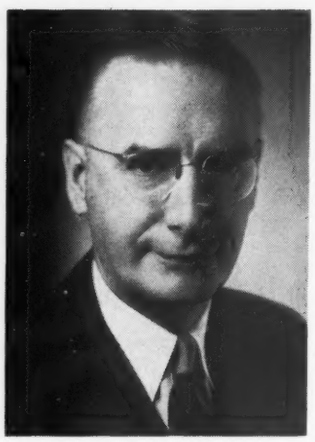
FINANCIAL, LEGAL & ACCOUNTING

Monta G. Mitchell, whose promotion to treasurer of the St. Louis Southwestern at St. Louis, Mo., was reported in the *Railway Age* of February 11, was born on February 28, 1898, at Chanute, Kan. Mr. Mitchell entered railroad service in 1912 with the San Antonio & Aransas Pass (now part of the Southern Pacific system), remaining with that road in various positions until 1919. In that year he joined the St. L. S. W. of Texas as assistant inventory clerk at Tyler, and in 1930 he was advanced to auditor

Monta G. Mitchell

of disbursements. He became auditor-treasurer-secretary of the Texas company in 1946, which position he held at the time of his promotion.

Carl A. Bick, whose election as comptroller of the Chicago, Indianapolis & Louisville at Chicago, was reported in the *Railway Age* of January 28, was born in that city on January 10, 1895. Mr. Bick completed two years at Central Y.M.C.A. College, Chicago, starting his railroad career in 1909 as a clerk in the freight auditor's office of the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific). In April, 1913, he entered the Chicago, Burlington & Quincy's accounting department, but left for army duty on the Mexican border in 1916. He subsequent-



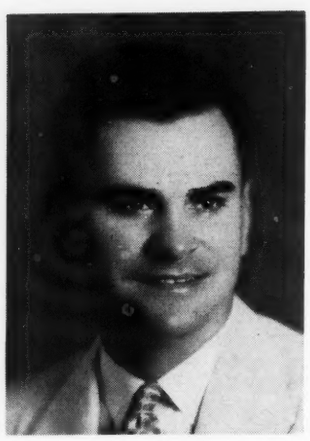
Carl A. Bick

ly resumed service with the Burlington, but in 1917 he returned to army duty. Following World War I he became department head, auditor of freight accounts, with the Burlington. He was appointed traveling station auditor in 1923 and chief clerk in the general auditor's office in 1927. A year later he became chief clerk, auditor of miscellaneous accounts, being advanced to assistant auditor of expenditures in 1936. In 1946 Mr. Bick was promoted to auditor of expenditures for the Burlington, which position he held until his recent appointment with the Monon.

F. G. Sweeney has been appointed acting comptroller and acting treasurer of the Rutland at Rutland, Vt., succeeding **R. D. Plumley,** who has resigned to become assistant comptroller of the Bangor & Aroostook at Bangor, Me.

OPERATING

W. D. Quarles, Jr., whose appointment as superintendent terminals of the Atlantic Coast Line at Richmond, Va., was reported in the *Railway Age* of February 4, was born at Richmond, Va., on February 13, 1916, and received his education in the public schools of Wilmington, N. C., and the University of North Carolina. Mr. Quarles began his rail-



W. D. Quarles, Jr.

road career on the A.C.L. on November 15, 1937, as fireman and was appointed engineer in November, 1942; fireman instructor in January, 1943; assistant road foreman of engines in February, 1943, and road foreman of engines in December, 1946. He became trainmaster of the Columbia district in 1947, transferring to the Richmond district in May, 1949.

Bert Clarence Jacobs, assistant to the general superintendent, Western district, Missouri Pacific Lines, at Kansas City, Mo., has retired after 48 years of service with the M.P. Lines.

Two New York Central System division superintendents, **G. H. Jedele,** at Erie, Pa., and **F. H. Reynolds,** (Cleveland, Cincinnati, Chicago & St. Louis), at Cincinnati, Ohio, will retire on March 1. Successor to Mr. Jedele is **James E. Guilfoyle,** now assistant superintendent at Erie, while **W. E. Kamm,** assistant to general manager of the Big Four at Cincinnati, has been promoted to succeed Mr. Reynolds. **G. F. Jessup,** assis-

tant superintendent (Michigan Central) at Jackson, Mich., succeeds Mr. Guilfoyle; **A. G. Teets,** recently appointed assistant superintendent at Van Wert, Ohio, takes Mr. Jessup's post, and **F. L. Coverston,** assistant to the general manager at Indianapolis, Ind., succeeds Mr. Teets at Van Wert.

Robert Mark Blaydes, whose promotion to superintendent of the Southern division, Kansas City Southern, at Shreveport, La., was reported in the *Railway Age* of February 4, was born on July 25, 1896, at Texarkana, Tex. He started his career with the K.C.S. in August, 1913, as roadmaster's clerk at Texarkana, and worked on various assignments in the

Robert Mark Blaydes

maintenance of way department until 1926. Subsequently he was appointed roadmaster on territory between Shreveport and DeQueen, Ark., with headquarters at Texarkana. He was transferred to Shreveport in 1932, serving as roadmaster at that point until 1941, when he became trainmaster there. He held the latter position at the time of his recent promotion.

Wesley W. Treleaven, assistant superintendent of the Mohawk and Hudson divisions of the New York Central at Albany, N. Y., has been appointed superintendent of the Boston & Albany (New York Central) at Springfield, Mass., effective March 1, succeeding **Sanford H. Keyes,** who has been appointed superintendent of freight service at New York. A biography and photograph of Mr. Keyes were published in the *Railway Age* of July 23, 1949, page 58. **William A. Shea,** trainmaster at Buffalo, N. Y., will replace Mr. Treleaven. **Nathan W. Watson,** trainmaster at Syracuse, N. Y., will be transferred to Buffalo, and will be succeeded at Syracuse by **LeRoy H. Stecker,** trainmaster at Pittsfield, Mass. **Robert V. Brinkworth,** transportation inspector in the office of the general manager at Syracuse, has been appointed trainmaster of the Boston & Albany at Pittsfield. **Karl L. Metzman** and **Theodore D. Shonts,** assistant managers of freight transportation of the system, have been appointed assistant general superintendent of freight transportation and superintendent of freight equipment distribution, respectively, with headquarters as before at New York. **Martin L. Richards,** supervisor of equipment distribution, has been appointed assistant superintendent of freight equipment distribution and **Harold J. Slavin,** chief supervisor of freight service, will become assistant superintendent of freight service, at New York.

Wesley W. Treleaven

Mr. Treleaven, who was born in 1900 at Castleton, N. Y., began his railroad service on the Boston & Albany in 1917 as a crew caller and clerk, rising through the ranks to become assistant superintendent at Boston in 1943. He held that position until 1948, when he was transferred to Albany.

Mr. Metzman was born at Baltimore, Md., in 1896 and entered the service of the New York Central at New York in 1922 as a clerk in the office of the general eastern freight agent. He was appointed city freight agent in 1926 and was transferred to the freight transportation department in 1944 as supervisor of freight service. In subsequent appointments he became chief supervisor in 1944, assistant to manager of freight transportation in 1945 and assistant manager in 1947.

Mr. Shonts was born at Burlington, Iowa, in 1892, and after graduation from the University of Illinois, entered railway service with the Chicago Short Line in 1915. He was statistician to the regional director of the United States Railroad Administration from 1918 to 1920, when he joined the New York Central as chief clerk in the freight transportation bureau. He was appointed chief clerk to the transportation assistant to the president in 1922, and office assistant in 1927. Transferring to the freight transportation department, he was appointed office assistant to manager in 1929, assistant to manager in 1931, and assistant manager in 1940.

TRAFFIC

J. M. Roberts, chief clerk to the Canadian Pacific's freight traffic manager for the Prairie and Pacific regions, at Winnipeg, Man., has been promoted to assistant general freight agent, rates and divisions, for the Pacific region at Vancouver, B. C.

J. R. Barker has been appointed division passenger agent of the New York Central System, with headquarters at Cincinnati, Ohio.

William B. Futral, whose appointment as assistant freight traffic manager of the Chicago, Rock Island & Pacific at Kansas City, Mo., was reported in the *Railway Age* of February 11, was born at Fort Smith, Ark., on June 19, 1902. He received his high school education in Arcadia, Tex., entering railroad service in June, 1919, as a station helper with the Gulf, Colorado & Santa Fe at Alta Loma, Tex. A year later he became a clerk in the office of superintendent of transportation, Gulf Coast Lines (now Missouri Pacific), at Houston, Tex., and later held various positions with that road. In 1924 he joined the Chicago, Rock Island & Gulf (now part of the C.R.I.&P.), at Fort Worth, Tex., as a secretary, and in 1931 he was appointed traveling freight agent, with headquarters at Amarillo, Tex., becoming division freight agent at the latter point in 1936. After serving as assistant general freight agent for the Rock Island at Oklahoma City, Okla., from 1938 to 1941, he was transferred to Little Rock, Ark., as assistant freight traffic manager, being appointed western freight traffic manager at Los Angeles, Cal., in July, 1942, the post he held prior to his recent appointment.

Earl Edom Strickland, whose retirement as assistant freight traffic manager of the Chicago, Rock Island & Pacific at Kansas City, Mo., was reported in the *Railway Age* of February 11, was born in Kansas City on January 23, 1885. Mr. Strickland received his L.L.B. degree from the Kansas City School of Law in 1912. He began his railroad career in 1903 with the St. Louis & San Francisco (now St. Louis-San Francisco), serving until 1906 in various positions in the local freight office at Kansas City. Subsequently he was employed by the Union Pacific at that point as bill clerk, and from 1907 to 1908, he worked as claim clerk for the Missouri, Kansas & Texas (now Missouri-Kansas-Texas). In 1908 he joined the Rock Island as claim clerk in the freight traffic department at Kansas City, becoming city freight agent for that road in 1910. Between 1913 and 1917 he engaged in law and commercial work in Kansas City, and in 1918 he entered the U. S. Army Field Artillery at Camp Taylor, Ky., later resuming law and commercial work. He re-entered Rock Island service in 1921 as merchandise freight agent, Kansas City freight traffic department. Five years later he was appointed assistant general agent, and in 1937 was made assistant general freight agent, being advanced to gen-

eral freight agent in 1939. In the same year Mr. Strickland was transferred to Chicago as assistant freight traffic manager, and in 1942 was transferred back to Kansas City in that capacity, where he was serving at the time of his retirement.

J. A. Cross has been appointed district traffic agent of the Canadian National at Glasgow, Scotland, succeeding **J. M. Blair,** who has retired on pension at his own request because of ill health. **A. A. Masey** has been appointed district traffic agent at Southampton, England, succeeding the late **F. E. Birch.**

A. G. Shook, district freight agent of the Southern, has been appointed assistant general freight agent, with headquarters as before at Miami, Fla.

Howard S. Powell, whose appointment to the newly created post of assistant freight traffic manager of the Illinois Central, at Chicago, was reported in the *Railway Age* of February 4, was born on October 13, 1899, at Hazelwood, Ky., and took his college work at the Universities of Georgia and Arkansas. He began his railroad career with the Chicago, Rock Island & Pacific in August, 1920, as rate clerk in the general freight

Howard S. Powell

office at Little Rock, Ark. In July, 1926, he joined the I. C. as a rate expert at Memphis, Tenn. From 1932 to 1934 he served as chief clerk at New Orleans, La., subsequently becoming chief of the divisions bureau at Chicago. In August, 1941, he was advanced to chief commerce agent and in June, 1942, was appointed assistant general freight agent. Mr. Powell was promoted to general freight agent in April, 1948, in which capacity he was serving at the time of his recent appointment.

F. W. Goldie, whose retirement as assistant freight traffic manager, Pere Marquette district, of the Chesapeake & Ohio at Detroit, Mich., was reported in the *Railway Age* of February 11, was born on January 17, 1885, at Milford, Mich. He began his railroad career in September, 1902, in the traffic department of the Pere Marquette (now part of the C. & O.), at Ludington, Mich., and in 1904 became soliciting freight agent at Buffalo, N. Y. Two years later he was appointed traveling freight agent, with headquarters at Chicago, becoming Pacific Coast agent, with headquarters at Seattle, Wash., in 1908. Mr. Goldie was transferred to Minneapolis, Minn., in 1910 as Northwestern agent, and was made general agent at Milwaukee, Wis., in 1915. From 1924 to 1931 he served as assistant general freight agent at Chicago, subsequently being appointed assistant freight traffic manager at that point. He was transferred to Detroit in March, 1939.

MECHANICAL

H. Allen Monroe, chief clerk in the mechanical department of the Bangor & Aroostook, has been appointed assistant to the mechanical superintendent at Derby, Me.

ENGINEERING & SIGNALING

W. L. Seabridge has been appointed assistant division engineer of the Atchison, Topeka & Santa Fe, with headquarters at Fresno, Cal., succeeding the late **L. E. Smith.**

S. E. McGinnis has been appointed communications engineer of the Chicago Great Western, with headquarters at Oelwein, Iowa, succeeding **G. R. Hoisington,** assigned to other duties.

R. A. DeVillers, assistant district engineer of the Quebec district of the Canadian National at Quebec City, Que., has been appointed division engineer of the Levis division at Levis, Que., succeeding **J. F. Davison,** transferred.

Otto J. Husemeier, division engineer f the Chicago & North Western's Ashland division, with headquarters at Antigo, Wis., has retired after 45 years of service in the engineering department. He is succeeded by **R. D. Ransom,** division engineer, Peninsula division, at Escanaba, Mich. **R. D. Culberton** succeeds Mr. Ransom.

Henry A. Schnitz, whose promotion to engineer of tests of the Chicago, Rock Island & Pacific at Chicago, was reported in the *Railway Age* of February 11, was born on August 13, 1887, at Logansport, Ind. After his graduation from Purdue University in mechanical engineering in July, 1912, Mr. Schnitz entered service with the Rock Island. He held various positions in the mechanical department, including those of machinist, roundhouse foreman, and tonnage rating inspector at various points on the system until 1921. He was subsequently transferred to the testing department at Chicago as material inspector. In 1925 he was advanced to chief inspector in that department, the post he held before his recent promotion.

OBITUARY

Guy Thornton Callender, who retired in December, 1948, as mechanical superintendent of the Western district, Missouri Pacific Lines, died recently at Kansas City, Mo., following a protracted illness.

Victor V. Boatner, railroad analyst and consultant, with offices in Chicago, and one-time president of the Chicago Great Western, died on February 11 in his apartment at the Ambassador West Hotel, Chicago. Born on May 6, 1881, at Bethlehem, Miss., Mr. Boatner attended Mississippi College and Bowling Green Business University. He started his railroad career in 1901 as station helper with the Yazoo & Mississippi Valley at Elizabeth, Miss., and subsequently served in various capacities on that road. In 1907 he became trainmaster, which post he held on various divisions of the Y. & M. V. and Illinois Central until 1916. Subsequently he was advanced to superintendent, New Orleans division, I. C., at Vicksburg, Miss., being transferred to the I. C.'s Memphis division in 1917. Mr. Boatner was elected president of the Peoria & Pekin Union in 1921, continuing in that capacity until his election as president of the Chicago Great Western in 1929. He became director and special representative of the Gulf, Mobile & Northern in 1932, and served as regional director, Federal Co-ordinator of Transportation, during 1933 and 1934. From 1934 to 1936 he was associated with the Federal Co-ordinator of Transportation, subsequently returning to the G. M. & N. to serve as executive representative, director and member of the executive committee. In January, 1942, Mr. Boatner became director, Division of Railway Transport, Office of Defense Transportation, at Washington, D. C. He also served as a director and executive consultant of the Chicago & Eastern Illinois, and engaged as specialist in railroad reorganization cases.

Edgar A. Jones, purchasing agent of the Lehigh Valley at New York, died on February 11 at the Guthrie Clinic, Sayre, Pa., after an illness of two months, at the age of 66. Mr. Jones was born at Wilkes-Barre, Pa., and received his B.A. degree in 1912 from Wesleyan University. He entered railroad service in 1912 with the Lehigh Valley and served as assistant to vice-president from December, 1927, until November, 1932, when he became purchasing agent, the position he held until his death. Mr. Jones served in France with the Transportation Corps, American Expeditionary Forces, from March 28, 1918, to July 28, 1919, as lieutenant, captain and major.

Edward D. Mohr, general attorney of the Louisville & Nash ille at Louisville, Ky., died on February 6 after an illness of two months.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1949	1948
Akron, Canton & Youngstown	Dec.	171	354,984	101	367,459	59,665	29,493	29,711	115,393	261,578	71.2	105,881	38,658	60,178	87,375
	12 mos.	171	4,391,438	797	4,570,665	859,776	522,422	338,715	1,425,527	3,463,129	75.8	1,107,536	542,723	508,812	1,123,588
Atchison, Topeka & Santa Fe	Dec.	13,096	31,296,567	3,982,902	39,433,918	5,448,378	7,832,556	1,038,269	13,151,027	29,151,718	73.93	10,282,200	5,356,379	4,805,505	5,090,814
	12 mos.	13,102	391,243,898	47,926,535	482,753,947	77,198,164	93,125,694	11,708,598	160,200,455	363,134,801	75.22	119,619,146	61,540,859	55,649,389	68,715,752
Atlanta & St. Andrews Bay	Dec.	82	194,420	1,140	201,391	15,543	14,494	6,467	44,154	79,813	39.6	121,578	40,129	62,454	60,742
	12 mos.	82	2,081,404	18,478	2,171,914	300,928	177,551	80,396	544,860	1,224,738	56.4	947,176	343,343	413,914	496,407
Atlanta & West Point	Dec.	93	228,319	41,325	314,516	30,844	49,163	13,198	160,346	278,172	88.4	36,344	15,132	—4,924	—23,294
	12 mos.	93	3,009,092	534,830	4,012,079	456,782	591,884	167,438	1,987,240	3,483,665	86.8	528,414	272,349	19,264	141,284
Western of Alabama	Dec.	133	257,752	39,938	333,797	28,893	56,491	13,235	137,231	258,548	77.4	75,249	42,070	38,661	19,876
	12 mos.	133	3,154,317	525,113	4,042,450	478,189	660,090	167,532	1,752,836	3,314,667	82.0	727,783	420,567	303,013	427,371
Atlantic & Danville	Dec.	205	108,000	.....	111,400	19,895	5,727	6,992	40,125	82,639	74.2	28,761	8,800	3,961	.....
	12 mos.	205	445,815	.....	454,974	105,487	31,510	40,546	199,837	435,925	95.8	19,049	34,308	—74,103	.....
Atlantic Coast Line	Dec.	5,526	8,568,090	1,569,955	11,170,027	1,495,447	1,593,013	336,091	4,556,901	8,541,324	76.5	2,628,703	1,400,000	1,188,087	869,633
	12 mos.	5,544	96,135,840	17,596,518	122,992,355	20,415,919	22,587,604	3,636,755	51,572,249	104,217,280	84.7	18,775,075	11,000,000	6,753,899	5,126,754
Charleston & Western Carolina	Dec.	343	354,156	1,656	363,618	57,973	41,684	15,124	167,589	292,578	80.5	71,040	—15,000	91,727	98,325
	12 mos.	343	4,295,021	31,031	4,436,282	868,482	743,250	187,345	1,972,525	3,902,229	88.0	534,053	260,000	227,543	533,243
Baltimore & Ohio	Dec.	6,202	26,077,425	2,084,695	30,061,176	3,125,472	6,067,351	783,818	12,895,987	24,141,225	80.3	5,919,951	2,547,504	2,797,043	2,397,241
	12 mos.	6,202	313,560,900	21,922,718	356,708,017	44,399,941	72,944,221	8,851,903	151,227,127	293,357,576	82.2	63,350,441	28,197,440	27,887,361	43,110,013
Staten Island Rapid Transit	Dec.	29	188,873	47,287	243,030	94,277	38,241	1,689	128,105	282,696	116.3	—39,666	31,806	—95,893	—99,297
	12 mos.	29	2,142,520	621,247	2,822,930	528,490	464,851	19,995	1,502,929	2,837,226	100.5	—14,296	394,935	—599,947	—544,393
Bangor & Aroostook	Dec.	602	992,710	33,367	1,062,337	105,243	281,744	14,438	294,317	749,757	70.6	312,580	141,590	124,652	395,867
	12 mos.	602	12,171,284	433,171	12,996,823	2,838,250	2,260,283	158,452	3,333,984	9,166,052	70.5	3,830,771	1,915,811	1,858,931	2,913,380
Bessemer & Lake Erie	Dec.	212	1,311,616	1,443	1,419,917	231,039	521,562	19,873	382,790	1,247,298	87.8	172,619	192,485	67,048	179,484
	12 mos.	213	21,189,954	15,938	21,529,703	2,488,568	7,156,609	201,126	5,304,936	16,123,023	74.9	5,406,680	3,308,219	4,027,656	7,828,302
Boston & Maine	Dec.	1,712	5,281,363	1,007,949	7,088,457	1,331,720	1,017,243	111,490	3,141,665	5,869,526	82.8	1,218,931	386,761	475,790	993,124
	12 mos.	1,734	61,721,866	13,033,033	82,238,981	13,676,003	12,809,548	1,253,135	35,744,052	67,091,572	81.6	15,147,409	6,481,146	4,983,560	8,270,759
Burlington-Rock Island	Dec.	228	388,563	55,876	469,048	38,780	32,546	4,258	140,487	237,650	50.7	231,398	12,309	135,414	38,888
	12 mos.	228	4,130,736	607,397	5,027,386	610,982	529,634	56,704	1,925,031	3,376,389	67.2	1,650,997	123,059	764,066	650,225
Cambria & Indiana	Dec.	35	85,100	.....	85,185	14,109	3,290	848	20,552	48,299	56.7	36,886	50,276	112,402	61,122
	12 mos.	35	1,203,752	.....	1,204,309	172,864	764,430	10,262	251,506	1,315,073	109.2	—110,764	406,575	541,597	654,408
Canadian Pacific Lines in Maine	Dec.	234	374,372	28,443	426,334	107,955	85,604	4,855	200,162	403,414	94.6	22,920	22,491	—15,336	175,514
	12 mos.	234	4,713,129	505,972	5,531,529	1,286,826	936,677	85,267	2,269,427	4,723,206	85.4	808,323	296,610	—213,725	185,351
Canadian Pacific Lines in Vermont	Dec.	90	152,187	10,262	179,744	30,760	30,431	4,063	105,568	174,954	97.3	4,790	9,812	—36,481	—105,786
	12 mos.	90	1,757,166	194,377	2,163,373	648,061	389,509	66,152	1,561,383	2,753,018	127.3	—589,645	153,091	—1,243,059	—1,325,995
Central of Georgia	Dec.	1,815	2,355,103	215,234	2,847,882	551,387	481,529	98,454	1,436,874	2,732,572	96.0	115,310	210,722	—144,567	271,241
	12 mos.	1,815	29,313,932	2,705,470	34,866,067	5,958,112	5,637,801	1,310,328	16,804,248	31,729,910	91.0	3,136,157	2,517,619	214,102	2,029,762
Central of New Jersey	Dec.	411	2,314,436	494,651	3,020,714	434,856	498,471	49,293	1,633,444	2,899,086	96.0	121,628	337,238	—521,439	—806,999
	12 mos.	415	28,424,550	6,233,127	36,970,009	5,513,456	6,208,699	628,896	19,005,074	33,640,144	91.0	3,329,865	4,532,689	—4,667,142	—3,885,791
Central of Pennsylvania	Dec.	212	1,321,333	13,910	1,370,645	126,427	308,391	21,975	458,099	953,011	69.5	417,634	85,686	589,537	755,483
	12 mos.	212	16,596,906	168,948	17,184,721	1,680,237	3,260,146	277,001	5,413,366	11,138,543	64.8	6,046,178	779,647	8,472,202	10,382,352
Central Vermont	Dec.	422	879,706	52,502	994,376	99,054	141,128	10,451	347,124	634,382	63.8	359,994	40,498	270,692	165,671
	12 mos.	422	8,347,706	740,502	9,741,376	1,813,302	1,720,431	180,305	4,152,518	8,316,393	85.4	1,424,983	568,372	324,728	942,321
Chesapeake & Ohio	Dec.	5,118	19,538,389	742,364	21,196,860	2,945,124	3,937,426	512,854	8,184,896	16,651,494	78.6	4,545,366	3,483,595	1,583,401	1,897,029
	12 mos.	5,109	251,548,972	9,651,683	273,958,827	42,276,634	57,761,734	6,377,018	99,674,092	219,379,375	80.1	54,579,452	30,405,745	25,834,966	45,448,383
Chicago & Eastern Illinois	Dec.	909	1,696,783	294,084	2,230,358	264,674	325,710	107,392	1,054,932	1,882,309	84.4	348,049	75,700	222,463	225,239
	12 mos.	909	21,713,507	3,436,212	27,812,088	3,899,396	4,946,244	1,259,093	11,837,732	23,622,071	84.9	4,190,017	1,622,618	1,188,288	2,216,509
Chicago & Illinois Midland	Dec.	130	563,953	836	582,203	10,760	134,913	25,839	229,188	435,751	74.8	146,452	32,859	115,119	246,821
	12 mos.	131	7,213,043	9,521	7,429,719	906,986	1,583,618	296,333	2,250,831	5,449,927	73.4	1,979,792	778,198	1,033,394	2,411,740
Chicago & North Western	Dec.	8,075	10,799,008	1,734,284	14,261,888	2,155,608	2,532,430	342,022	6,901,743	12,677,587	88.9	1,584,301	314,792	1,082,741	608,753
	12 mos.	8,076	132,936,697	21,850,143	173,140,758	27,223,585	34,043,294	3,770,479	82,714,207	156,929,211	90.6	16,211,547	11,488,521	2,782,619	10,010,400
Chicago, Burlington & Quincy	Dec.	8,873	14,017,860	1,447,236	17,424,287	2,117,822	3,023,707	389,622	6,827,276	13,051,249	74.9	4,373,038	2,093,222	1,789,126	2,097,408
	12 mos.	8,767	179,802,953	17,818,681	217,996,508	36,261,258	38,419,338	5,130,764	78,842,227	167,265,649	76.9	50,730,859	26,192,248	19,620,338	32,737,495
Chicago Great Western	Dec.	1,480	2,503,211	18,652	2,737,010	421,321	417,772	100,927	892,777	1,920,868	70.2	816,142	295,638	329,315	244,216
	12 mos.	1,490	29,774,111	334,509	32,291,331	7,064,561	3,904,119	1,229,292	11,187,897	24,335,602	75.4	7,955,729	2,563,325	2,666,416	3,598,774
Chicago, Indianapolis & Louisville	Dec.	541	1,299,170	78,473	1,460,041	181,774	239,607	73,581	527,724	1,127,156	77.2	332,885	117,562	165,225	—60,688
	12 mos.	541	15,663,156	1,035,561	17,786,942	2,902,291	2,923,363	895,192	6,743,416	14,536,998	81.7	3,249,944	1,108,268	1,188,001	1,476,573
Chicago, Milwaukee, St. Paul & Pacific	Dec.	10,671	14,804,688	1,665,882	18,390,372	2,564,862	4,111,229	421,384	8,519,123	16,498,258	89.7	1,892,114	1,199,000	351,731	854,263
	12 mos.	10,671	195,728,630	19,420,606	238,021,260	38,107,287	44,941,984	5,085,731	103,069,696	202,111,827	84.9	35,909,433	19,624,000	10,939,286	15,514,415
Chicago, Rock Island & Pacific	Dec.	7,619	11,634,992	1,825,447	14,671,964	1,861,180	2,481,683	441,658	5,438,760	10,919,422	74.4	3,752,542	1,460,526	1,634,364	2,130,638
	12 mos.	7,621	150,250,920	21,132,533	184,656,845	24,514,324	29,686,122	5,461,005	67,343,973	135,368,229	73.3	49,288,616	20,794,887	19,834,672	21,891,753
Chicago, St. Paul, Minn. & Omaha	Dec.	1,617	2,332,491	201,587	2,768,046	335,767	334,464	60,682	1,399,195	2,242,050	81.0	525,996	—1,831	365,663	464,439
	12 mos.	1,617	26,881,244	2,370,820	31,781,014	4,556,129	4,877,859	682,648	15,814,149	27,355,842	86.1	4,425,172	1,762,911	1,232,444	1,960,144
Clinchfield	Dec.	317	1,683,264	3,554	1,697,479	209,499	260,708	34,018	394,804	928,256	54.7	769,223	145,349	703,031	438,356
	12 mos.	317	16,467,135	54,729	16,668,785	2,274,219	3,223,177	404,088	4,456,396	10,717,199	64.3	5,951,586	1,932,516	4,896,864	6,850,014

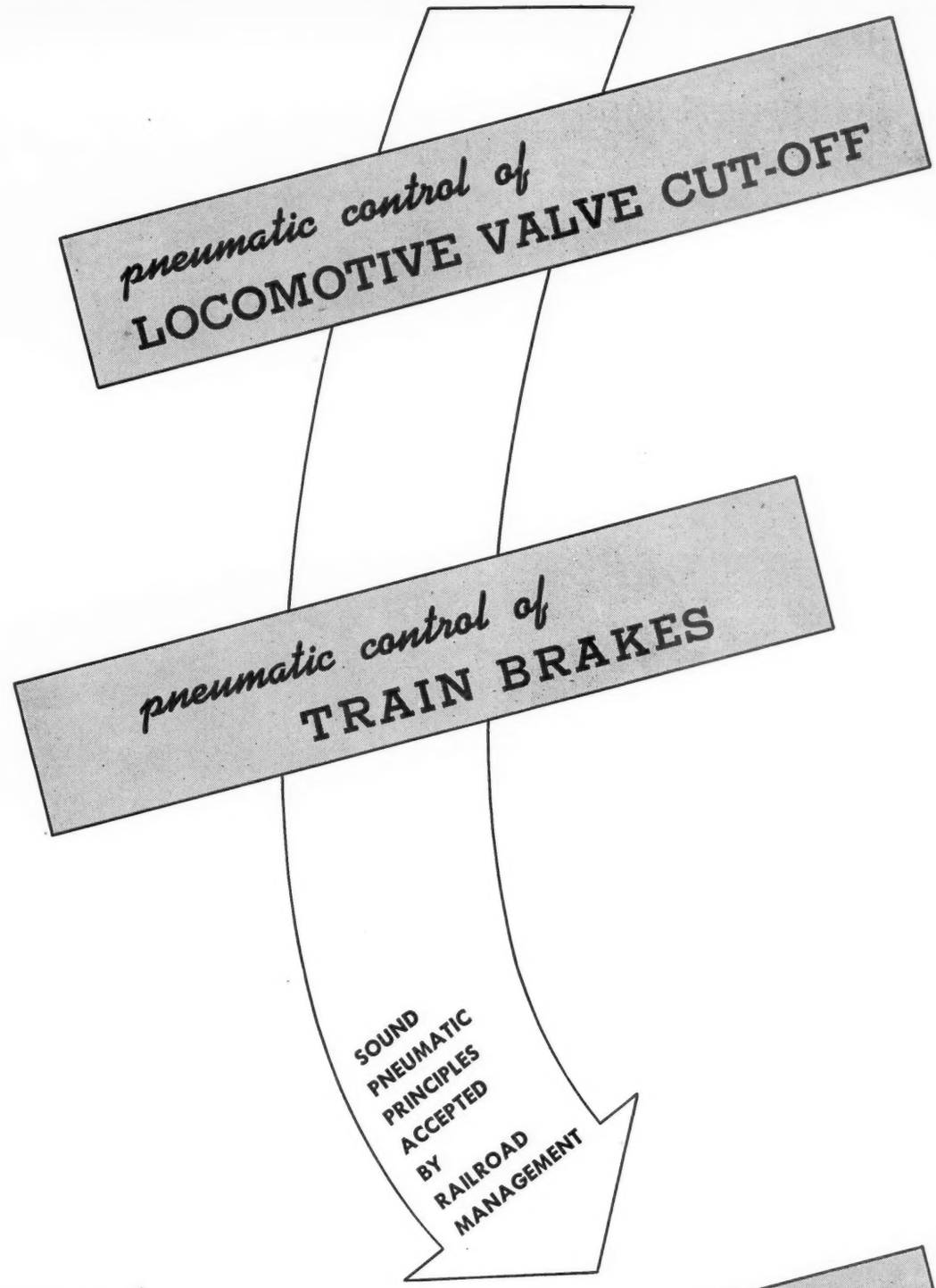
Table continued on next left-hand page.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues		Operating Expenses						Operating ratio	Net (from railway operation	Railway tax accruals	Net railway operating income	
					Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1949	1948
			Freight	Passenger											
Colorado & Southern	Dec.	746	997,769	71,178	1,182,902	186,195	135,471	25,089	411,946	810,173	68.5	372,729	247,278	62,209	154,150
	12 mos.	745	11,263,280	925,506	13,272,896	2,020,246	2,213,279	302,704	5,656,133	10,243,535	77.2	3,029,361	1,529,188	902,492	826,776
Ft. Worth & Denver City	Dec.	902	1,478,208	114,416	1,733,664	173,119	237,104	41,518	504,474	1,029,661	59.4	704,003	179,974	418,881	342,931
	12 mos.	902	13,779,818	1,408,176	16,444,310	2,236,044	2,243,901	516,382	5,497,217	11,358,783	69.1	5,685,527	1,650,517	2,540,288	2,478,709
Colorado & Wyoming	Dec.	41	118,969	.....	191,926	27,978	25,711	1,099	85,691	149,253	77.7	42,673	32,493	7,857	54,744
	12 mos.	41	1,320,928	.....	2,215,937	171,221	251,441	11,957	882,268	1,422,732	64.2	793,205	430,754	321,895	654,696
Columbus & Greenville	Dec.	168	154,011	.....	160,365	43,351	24,915	6,082	47,721	145,834	90.9	14,531	12,500	6,203	—27,024
	12 mos.	168	1,895,268	1,779	1,966,752	458,566	339,674	57,503	555,543	1,620,845	82.4	345,907	228,841	145,958	103,402
Delaware & Hudson	Dec.	794	3,890,522	186,687	4,205,864	474,836	932,516	71,361	1,812,393	3,463,150	82.3	742,714	29,356	631,168	560,160
	12 mos.	794	46,082,857	2,224,607	49,697,987	7,004,002	10,744,129	847,097	20,774,619	41,450,396	83.4	8,247,591	3,910,317	4,049,367	7,356,928
Delaware, Lackawanna & Western	Dec.	968	5,072,799	906,815	6,531,719	666,410	967,769	189,791	2,997,379	5,057,043	77.4	1,474,676	716,047	734,379	1,126,096
	12 mos.	969	64,138,212	9,949,058	80,476,508	10,316,315	13,731,325	1,870,826	36,298,888	64,985,729	80.8	15,490,779	7,881,695	7,178,193	11,362,804
Denver & Rio Grande Western	Dec.	2,413	4,738,222	221,844	5,211,098	619,427	877,827	182,601	1,901,148	4,204,366	80.7	1,006,732	492,266	687,458	817,484
	12 mos.	2,425	59,434,877	3,174,351	65,689,066	9,228,472	12,055,559	1,935,290	23,754,010	50,539,060	76.9	15,150,006	6,980,318	8,323,771	12,156,284
Detroit & Mackinac	Dec.	232	139,631	640	148,973	39,902	26,145	4,173	41,450	126,695	85.0	22,278	18,731	457	19,844
	12 mos.	232	1,810,096	8,442	1,928,707	393,012	270,149	26,006	422,565	1,210,388	62.8	718,319	290,354	393,893	527,744
Detroit & Toledo Shore Line	Dec.	50	596,681	.....	598,542	88,542	56,712	13,942	207,428	377,238	63.0	221,304	54,401	55,813	38,621
	12 mos.	50	5,999,372	.....	6,028,542	719,259	575,463	157,299	1,905,787	3,491,658	57.9	2,536,884	767,692	831,739	1,018,605
Detroit, Toledo & Ironton	Dec.	464	1,182,822	677	1,227,279	104,499	228,611	27,294	390,220	793,916	64.7	433,363	164,819	207,165	413,638
	12 mos.	464	14,540,371	7,453	15,049,255	1,937,734	2,786,177	292,388	4,101,302	9,570,874	63.6	5,478,381	2,144,115	2,812,861	3,816,808
Duluth, Missabe & Iron Range	Dec.	564	322,100	2,544	389,561	834,530	586,826	8,104	512,226	1,987,998	510.3	—1,598,437	—437,579	—1,172,959	—877,283
	12 mos.	573	33,113,421	51,672	38,903,717	7,637,089	6,594,923	97,142	11,347,464	26,437,227	68.0	12,466,490	6,856,931	5,611,272	10,165,042
Duluth, South Shore & Atlantic	Dec.	539	419,671	8,887	455,680	121,608	129,717	18,154	225,046	512,930	112.6	—57,250	23,978	—98,797	29,114
	12 mos.	539	5,210,851	145,152	5,693,628	1,526,830	1,225,502	217,439	2,531,056	5,721,681	100.5	—28,053	321,329	—538,966	747,655
Duluth, Winnipeg & Pacific	Dec.	175	355,938	1,269	364,219	33,414	41,747	2,806	157,608	241,880	66.4	122,339	27,890	45,142	—9,185
	12 mos.	175	3,412,938	28,569	3,492,819	818,764	525,206	49,631	1,587,484	3,054,509	87.5	438,310	284,474	—199,922	119,025
Elgin, Joliet & Eastern	Dec.	238	2,916,262	4	3,572,691	224,767	584,442	32,009	1,289,938	2,248,613	62.9	1,324,078	626,446	369,360	462,275
	12 mos.	238	34,373,863	65	41,821,213	3,726,441	7,433,918	334,225	14,501,638	27,332,662	65.4	14,488,551	5,744,494	5,870,389	7,768,991
Erie	Dec.	2,231	10,687,466	645,805	12,184,535	1,276,437	2,093,135	304,357	5,279,846	9,550,031	78.4	2,634,504	1,077,226	1,267,192	1,625,190
	12 mos.	2,230	131,127,598	7,576,298	149,109,907	20,180,563	26,895,785	3,764,685	63,470,448	121,568,709	81.5	27,541,198	12,362,242	10,555,698	20,224,823
Florida East Coast	Dec.	571	1,500,354	592,385	2,416,812	319,056	360,753	66,692	915,739	1,830,947	75.8	585,865	263,676	215,692	309,762
	12 mos.	575	17,025,391	6,468,337	25,902,147	4,661,362	4,659,487	769,807	9,756,807	21,803,994	84.2	4,098,153	3,138,315	—204,496	1,855,052
Georgia	Dec.	326	559,949	23,001	633,121	67,364	104,755	27,277	299,289	530,779	83.8	102,342	49,468	76,730	48,938
	12 mos.	326	7,094,163	353,220	7,962,834	1,123,117	1,193,076	338,831	3,819,972	6,834,155	85.8	1,128,679	427,894	863,994	1,235,356
Georgia & Florida	Dec.	408	202,730	394	205,604	57,187	29,356	15,612	104,915	210,941	102.6	—5,337	3,470	—19,130	—84,255
	12 mos.	408	2,713,904	1,124	2,749,982	816,734	416,944	185,695	1,210,947	2,757,902	100.3	—7,920	177,626	—361,382	—213,254
Grand Trunk Western	Dec.	971	3,540,878	223,390	4,062,576	415,776	743,203	69,424	1,751,166	3,123,197	76.9	939,379	253,787	656,057	492,195
	12 mos.	971	41,558,878	2,302,390	46,986,576	7,663,823	8,235,939	775,928	21,010,511	39,511,531	84.1	7,475,045	2,988,069	3,268,169	5,342,323
Canadian Natl. Lines in New Engl.	Dec.	172	146,527	5,085	212,885	66,670	37,479	2,853	106,504	224,885	105.6	—12,000	15,979	—60,286	—94,374
	12 mos.	172	1,630,527	121,085	2,094,885	806,348	482,351	34,495	1,393,826	2,856,407	136.4	—761,522	264,315	—1,367,204	—1,237,052
Great Northern	Dec.	8,317	12,511,808	945,983	14,850,983	3,169,905	3,150,868	311,145	5,738,450	12,947,942	87.2	1,903,041	1,439,685	223,814	170,631
	12 mos.	8,318	184,061,536	11,688,120	212,267,229	39,955,795	35,153,208	4,148,060	75,057,443	161,951,808	76.3	50,315,421	25,990,822	20,545,035	27,199,841
Green Bay & Western	Dec.	224	304,274	.....	308,798	36,045	34,929	18,220	92,337	193,953	62.81	114,845	56,676	65,261	53,964
	12 mos.	224	3,520,436	330	3,592,915	943,171	399,944	220,355	1,134,601	2,851,933	79.38	740,981	347,779	214,933	343,191
Gulf, Mobile & Ohio	Dec.	2,901	5,269,790	478,017	6,199,833	1,262,592	975,764	240,910	1,950,071	4,737,549	76.4	1,462,284	581,510	590,190	625,736
	12 mos.	2,901	62,674,862	5,305,249	73,031,815	12,993,974	12,723,588	2,728,861	23,586,090	55,692,164	76.3	17,339,651	7,035,811	7,008,946	9,097,324
Illinois Central	Dec.	6,543	16,909,689	2,134,728	21,701,281	2,537,861	3,771,590	431,729	8,065,641	15,731,261	72.5	5,970,020	2,732,518	2,663,001	3,075,138
	12 mos.	6,546	203,743,199	24,003,485	253,786,391	44,010,289	42,671,565	5,361,764	93,196,297	196,199,803	77.3	57,586,588	29,823,753	25,184,679	29,770,116
Illinois Terminal	Dec.	474	678,698	109,443	880,898	155,080	111,552	39,422	388,137	752,024	85.37	128,874	62,928	54,065	85,759
	12 mos.	474	9,154,616	1,326,300	11,699,695	1,837,681	1,534,477	448,607	4,676,481	9,050,425	77.36	2,649,270	1,260,536	1,262,527	1,952,436
Kansas City Southern	Dec.	891	2,909,654	132,935	3,340,529	273,867	460,812	97,489	968,555	1,938,365	58.0	1,402,164	470,000	679,638	932,822
	12 mos.	891	35,297,054	1,274,440	39,746,239	3,358,178	4,727,126	1,105,247	11,587,300	22,240,479	56.0	17,505,760	6,149,000	8,980,645	10,286,337
Kansas, Oklahoma and Gulf	Dec.	327	470,913	730	475,140	38,935	41,447	23,127	132,124	260,145	54.8	214,995	68,278	116,421	108,500
	12 mos.	327	5,136,589	8,812	5,182,790	702,647	430,019	206,086	1,419,161	2,996,254	57.8	2,187,536	950,484	913,016	1,124,643
Lake Superior & Ishpeming	Dec.	156	51,420	27	59,317	44,065	29,582	1,660	25,057	130,864	220.6	—71,547	31,882	—100,271	—114,384
	12 mos.	156	2,786,070	937	3,358,256	563,743	543,662	21,096	806,362	2,069,390	61.6	1,288,866	738,095	586,288	764,422
Lehigh & Hudson River	Dec.	96	215,300	.....	215,359	30,617	22,676	8,865	91,311	162,954	75.7	52,405	44,381	—16,003	37,530
	12 mos.	96	2,736,107	.....	2,741,262	444,786	365,951	107,315	1,080,944	2,107,344	76.9	633,918	288,570	98,817	337,672
Lehigh & New England	Dec.	191	578,180	.....	582,803	70,624	211,397	13,324	161,602	485,049	83.2	97,754	—237,085	367,669	170,212
	12 mos.	191	7,635,304	.....	7,698,389	1,100,302	1,345,501	135,571	2,027,230	4,974,106	64.6	2,724,283	1,000,863	1,973,258	2,106,483
Lehigh Valley	Dec.	1,252	4,886,556	398,550	5,535,378	931,379	991,127	140,348	2,457,029	4,761,389	86.0	773,989	419,643	148,451	304,466
	12 mos.	1,252	61,811,495	3,973,089	69,181,281	9,805,459	11,970,340	1,666,831	30,211,627	56,573,531	81.8	12,607,750	4,900,936	5,584,141	9,200,990
Long Island	Dec.	365	1,073,461	2,559,061	3,802,985	588,975	1,053,746	12,541	1,596,671	3,321,863	87.3	481,122	426,970	—217,758	—785,117
	12 mos.	375	13,361,051	34,431,802	49,996,234	6,654,319	9,536,448	317,539	26,289,642	44,404,743	88.8	5,591,491	5,462,172	—3,025,911	—4,233,148

Table continued on next left-hand page.



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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc.)	Way and structures	Equipment	Traffic	Transportation	Total				1949	1948
Louisiana & Arkansas	Dec.	756	1,592,953	77,550	1,756,610	167,719	186,255	50,969	505,661	958,166	54.5	798,444	316,806	387,369	263,063
	12 mos.	756	17,161,166	757,635	18,757,009	2,204,185	2,137,088	603,139	5,939,498	11,554,346	61.6	7,202,663	2,846,018	3,447,430	3,555,607
Louisville & Nashville	Dec.	4,780	13,222,549	1,223,506	15,527,967	2,126,975	3,177,452	291,335	5,979,577	12,134,001	78.14	3,393,966	2,558,111	1,525,704	1,504,787
	12 mos.	4,776	152,781,260	13,595,762	177,396,626	26,908,006	37,704,090	3,577,593	74,336,211	149,456,690	84.25	27,939,936	20,569,003	12,836,069	21,175,636
Maine Central	Dec.	981	1,681,697	146,250	1,996,123	340,929	384,487	19,724	762,561	1,571,940	78.8	424,183	193,374	188,360	225,123
	12 mos.	981	20,744,124	1,848,401	24,157,739	4,302,688	4,895,907	225,348	8,697,518	18,938,166	78.4	5,219,573	2,572,624	2,174,642	2,485,610
Midland Valley	Dec.	334	156,704	6	159,244	34,428	15,315	4,655	57,721	122,657	77.0	36,587	51,648	—34,459	—4,397
	12 mos.	334	1,904,234	97	1,941,077	442,698	234,777	43,676	654,136	1,461,866	75.3	479,211	231,536	121,099	201,644
Minneapolis & St. Louis	Dec.	1,421	1,364,985	8,226	1,412,230	183,707	276,051	107,406	514,156	1,177,286	83.4	234,944	154,124	84,589	362,112
	12 mos.	1,421	18,194,544	112,197	18,865,047	3,462,797	3,139,486	1,322,111	6,350,621	15,394,287	81.6	3,470,760	1,865,940	1,356,144	2,279,389
Minneapolis, St. Paul & S. S. Marie	Dec.	3,224	2,110,945	97,029	2,387,478	488,412	728,373	67,879	1,081,584	2,466,430	103.3	—78,952	37,762	—143,446	—28,361
	12 mos.	3,224	32,042,081	1,351,907	35,430,968	7,112,077	6,072,726	780,436	14,455,315	29,648,872	83.7	5,782,096	3,180,924	1,931,476	2,510,339
Mississippi Central	Dec.	148	210,111	229	214,673	36,828	23,474	11,927	57,616	138,631	64.6	76,042	34,378	29,439	19,242
	12 mos.	148	2,209,235	—477	22,608,858	593,329	274,998	148,252	601,165	1,727,751	76.4	533,107	224,817	156,142	315,232
Missouri Illinois	Dec.	172	388,313	300	391,796	45,835	36,592	6,996	101,780	199,555	50.9	192,241	66,888	124,291	97,558
	12 mos.	172	4,137,464	2,792	4,166,784	773,157	555,600	83,854	1,152,038	2,651,898	63.6	1,514,886	448,722	986,623	1,035,846
Missouri-Kansas-Texas	Dec.	3,253	4,971,039	409,902	5,969,734	905,160	826,600	216,366	2,105,108	4,330,631	72.5	1,639,103	670,756	732,246	920,877
	12 mos.	3,253	64,639,789	4,565,084	75,130,317	10,826,638	10,702,410	2,652,126	27,876,398	55,444,455	73.8	19,685,862	7,861,762	7,684,089	9,324,618
Missouri Pacific	Dec.	6,969	13,866,778	978,111	16,486,212	2,957,688	2,686,051	362,427	6,645,150	13,214,320	80.2	3,271,892	—226,249	3,053,646	1,936,327
	12 mos.	7,002	147,234,381	10,324,752	173,224,246	30,693,050	31,641,583	4,768,961	69,071,801	142,582,256	82.3	30,641,990	9,595,657	16,201,573	26,575,268
Gulf Coast Lines	Dec.	1,712	3,203,740	92,075	3,481,220	528,436	379,993	79,981	1,105,106	2,213,577	63.6	1,267,643	271,992	682,317	650,704
	12 mos.	1,713	35,077,267	1,094,832	38,209,760	6,656,551	4,707,650	952,141	12,991,715	26,728,049	70.0	11,481,711	3,104,092	5,736,037	7,381,165
International-Great Northern	Dec.	1,110	2,131,565	176,039	2,772,157	520,698	403,925	49,209	946,712	2,033,037	73.3	739,120	55,803	562,924	374,742
	12 mos.	1,110	25,609,568	1,859,518	30,591,249	5,760,303	4,856,960	611,522	12,675,884	25,161,664	82.3	5,429,585	1,292,847	2,711,324	2,682,910
Monongahela	Dec.	170	403,608	1,133	409,469	35,052	67,887	938	185,100	293,047	71.6	116,422	—125,219	125,513	72,325
	12 mos.	170	5,612,671	12,949	5,675,366	763,361	719,758	11,765	2,049,510	3,619,831	63.8	2,055,535	345,083	528,613	1,490,972
Montour	Dec.	51	159,473	.....	159,891	15,532	52,194	803	58,988	137,619	86.1	22,272	24,829	22,064	52,585
	12 mos.	51	2,387,616	.....	2,401,616	278,325	733,833	9,770	775,556	1,917,142	79.8	484,474	490,558	549,155	814,660
Nashville, Chatt. & St. Louis	Dec.	1,049	2,183,830	172,502	2,652,643	301,835	362,044	103,724	1,032,135	1,874,369	70.7	778,274	315,833	449,084	297,395
	12 mos.	1,049	26,968,249	2,079,319	32,056,955	5,374,347	4,386,992	1,249,578	12,887,164	25,199,814	78.6	6,857,141	3,394,616	3,422,130	2,932,666
New York Central	Dec.	10,727	43,142,569	11,392,338	60,984,409	6,648,435	10,228,931	939,855	29,184,769	50,176,836	82.3	10,807,573	3,146,793	5,912,464	3,637,391
	12 mos.	10,727	500,919,039	122,451,363	697,304,399	91,310,666	138,391,389	11,746,679	319,547,396	597,038,307	85.6	100,266,092	50,857,063	32,295,475	37,221,591
Pittsburgh & Lake Erie	Dec.	221	2,917,555	89,648	3,162,204	372,592	880,514	60,721	1,040,545	2,579,174	81.6	583,030	659,290	686,213	683,680
	12 mos.	221	34,181,791	982,452	36,767,098	4,856,523	11,256,878	793,232	13,862,781	32,996,879	89.7	3,770,219	5,489,686	5,790,845	9,677,960
New York, Chicago & St. Louis	Dec.	2,192	10,639,090	131,682	11,078,907	1,166,978	1,414,021	287,445	3,859,319	7,142,657	64.5	3,936,250	1,614,429	2,108,984	1,529,628
	12 mos.	2,192	121,795,391	1,507,084	127,365,168	17,265,348	19,740,641	3,371,300	45,134,573	90,233,108	70.8	37,132,060	16,352,841	19,163,349	25,477,614
New York, New Haven & Hartford	Dec.	1,797	6,560,090	4,550,701	12,269,708	1,772,839	2,435,317	234,255	5,332,834	10,457,727	85.2	1,811,981	1,002,000	—40,570	929,674
	12 mos.	1,798	80,859,864	50,223,105	144,690,868	21,270,269	22,603,259	2,850,784	61,439,162	117,145,462	81.0	27,545,406	11,142,000	7,528,998	10,902,536
New York Connecting	Dec.	21	760,956	.....	780,916	57,307	10,216	.....	49,618	119,599	15.3	661,317	59,774	636,832	20,723
	12 mos.	21	2,765,837	.....	2,935,107	886,232	261,584	.....	654,277	1,832,750	62.4	1,102,357	673,723	732,196	730,397
New York, Ontario & Western	Dec.	544	523,748	2,017	564,760	50,962	84,921	25,765	275,580	466,864	82.7	97,896	39,576	—8,228	—100,711
	12 mos.	544	6,134,496	143,069	6,766,400	1,117,504	1,066,664	341,105	3,248,093	6,167,547	91.1	600,853	467,111	—672,473	—936,215
New York, Susquehanna & Western	Dec.	120	328,693	40,748	382,441	44,724	47,443	5,674	182,906	320,871	83.9	61,570	30,653	4,705	—758,449
	12 mos.	120	3,903,343	493,547	4,541,127	566,509	644,229	72,233	2,059,267	3,650,583	80.4	890,544	380,854	191,724	—276,657
Norfolk & Western	Dec.	2,129	11,621,377	458,938	12,710,180	1,978,879	2,120,821	276,582	4,338,950	9,268,253	72.9	3,441,927	2,307,684	2,081,679	2,515,417
	12 mos.	2,129	136,901,862	5,497,523	148,946,972	22,888,219	31,845,351	3,197,362	49,664,036	114,043,855	76.6	34,903,117	21,870,423	20,794,351	38,508,960
Norfolk Southern	Dec.	683	726,693	.....	748,996	168,227	105,077	43,717	254,145	634,506	84.7	114,490	26,430	58,923	—257,321
	12 mos.	683	8,487,932	6,323	8,766,385	1,809,934	1,100,427	511,446	2,956,951	7,080,461	80.8	1,685,924	851,494	577,919	614,655
Northern Pacific	Dec.	6,889	10,196,483	585,599	11,801,208	2,239,496	2,204,384	170,187	4,806,845	10,082,905	85.4	1,718,303	—984,410	3,130,063	1,481,947
	12 mos.	6,889	131,153,980	7,355,621	150,176,139	28,771,830	29,052,276	3,059,423	56,711,709	125,184,241	83.4	24,991,898	14,739,039	14,017,915	20,140,126
Northwestern Pacific	Dec.	331	693,674	5,628	732,739	183,661	93,410	4,601	343,017	638,472	87.1	94,267	103,525	—72,042	—86,577
	12 mos.	331	8,045,298	68,264	8,444,495	2,108,319	1,052,740	54,234	3,927,317	7,307,428	86.5	1,137,067	541,538	25,979	445,027
Oklahoma City-Ada-Atoka	Dec.	132	100,657	—2	101,578	23,729	3,316	1,748	27,029	61,147	60.2	40,431	10,799	17,012	18,115
	12 mos.	132	983,872	—25	995,484	258,351	49,868	17,775	263,637	636,157	63.9	359,327	123,650	103,990	134,227
Pennsylvania	Dec.	10,118	49,262,312	13,621,551	69,763,724	5,716,620	19,859,309	1,209,294	31,566,505	60,832,031	87.2	8,931,693	4,371,628	664,082	3,784,783
	12 mos.	10,140	619,091,079	149,241,889	848,211,159	105,352,802	190,037,911	14,857,416	384,916,849	729,413,756	86.0	118,797,403	61,808,287	37,177,720	69,293,118
Pennsylvania-Reading Seashore	Dec.	386	465,979	122,155	617,894	94,508	136,210	10,858	522,224	785,747	127.3	—168,853	78,918	—384,624	—446,914
	12 mos.	386	5,657,207	3,251,861	9,245,952	2,029,492	1,570,520	130,510	7,024,573	11,103,573	120.1	—1,857,621	1,065,584	—4,420,136	—3,243,540
Pittsburg & Shawmut	Dec.	97	238,528	.....	239,130	43,264	52,800	5,928	75,243	203,152	85.0	35,978	12,467	10,627	18,006
	12 mos.	97	2,212,122	.....	2,222,100	426,606	468,853	40,091	635,299	1,681,968	75.7	540,132	191,429	329,359	404,524

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1949	1948
Pittsburgh & West Virginia	Dec.	135	524,975	.....	543,862	117,561	122,932	43,982	161,688	484,028	89.0	59,834	19,146	106,742	139,035
	12 mos.	135	7,071,046	646	7,300,213	1,526,250	1,471,146	489,048	1,945,941	5,836,835	80.0	1,463,378	882,718	1,146,893	1,935,588
Reading	Dec.	1,319	7,997,097	648,724	9,166,693	1,514,264	2,002,475	141,972	4,185,967	8,141,072	88.8	1,025,621	76,440	937,679	575,959
	12 mos.	1,324	96,582,291	7,477,819	109,747,175	17,708,929	22,164,199	1,598,415	46,112,505	91,266,297	83.2	18,480,878	8,900,159	9,378,553	13,604,907
Richmond, Fredericksburg & Potomac	Dec.	118	1,134,416	505,219	1,868,563	211,519	231,585	20,764	842,089	1,392,874	74.5	475,689	255,005	119,589	244,124
	12 mos.	118	13,582,544	6,087,492	22,214,533	3,347,031	3,700,466	248,655	9,575,346	18,296,253	82.4	3,918,280	2,208,767	825,032	2,419,720
Rutland	Dec.	407	319,952	27,763	417,068	47,829	90,749	14,866	248,632	422,644	101.3	—5,576	29,006	—59,969	—84,258
	12 mos.	407	4,204,621	375,749	5,449,216	926,288	1,029,858	171,571	2,970,744	5,317,218	97.6	131,998	353,585	—457,810	—18,439
Sacramento Northern	Dec.	271	123,810	.....	128,607	59,741	16,895	2,210	67,893	154,949	120.5	—26,342	10,112	—50,024	—93,149
	12 mos.	271	2,094,531	342	2,169,471	892,822	231,446	26,397	842,253	2,092,007	96.4	77,464	149,302	—225,028	—474,703
St. Louis-San Francisco	Dec.	4,645	7,611,018	514,410	8,878,418	1,416,363	1,726,684	235,631	3,336,003	7,124,834	80.2	1,753,584	772,698	1,076,005	972,265
	12 mos.	4,645	92,210,898	6,496,332	106,565,747	17,946,648	18,590,357	2,810,365	41,859,237	85,979,521	80.7	20,586,226	10,423,909	10,215,315	11,389,522
St. Louis, San Francisco & Texas	Dec.	159	282,265	9,861	318,080	74,466	34,756	16,714	155,262	291,188	91.5	26,892	64	—27,170	51,126
	12 mos.	159	4,107,940	126,560	4,493,959	679,474	401,968	192,196	1,818,734	3,211,752	71.5	1,282,207	369,520	375,688	596,365
St. Louis Southwestern	Dec.	1,569	4,457,498	80,422	4,739,129	595,330	510,162	156,128	1,542,441	2,976,185	62.8	1,762,944	828,865	731,355	1,090,415
	12 mos.	1,569	57,139,013	784,313	60,175,357	7,934,279	7,366,103	1,717,455	19,144,067	38,252,031	63.6	21,923,326	9,430,626	9,888,349	12,071,612
Seaboard Air Line	Dec.	4,146	8,631,893	1,312,373	10,882,098	1,576,696	1,981,693	303,478	4,137,451	8,493,701	78.1	2,388,397	849,683	1,283,995	940,148
	12 mos.	4,151	98,944,055	14,942,684	122,894,179	19,709,873	22,895,515	3,809,065	46,602,719	98,870,492	80.5	24,023,687	11,198,704	11,048,786	13,187,842
Southern	Dec.	6,195	16,371,376	1,448,491	19,408,195	2,062,464	3,299,173	328,462	6,725,207	13,184,359	67.9	6,223,836	2,842,183	2,943,304	2,901,211
	12 mos.	6,324	178,569,622	17,960,923	212,771,708	30,607,087	40,785,824	4,242,541	81,605,767	166,438,603	78.2	46,333,105	22,149,599	21,863,820	29,148,740
Alabama Great Southern	Dec.	316	1,183,143	64,119	1,384,293	172,242	259,764	27,884	508,084	1,020,668	73.7	363,625	254,032	116,917	153,513
	12 mos.	316	13,517,500	1,179,658	16,117,999	2,491,409	3,377,437	355,384	5,739,463	12,616,445	78.3	3,501,554	2,085,521	1,473,887	2,578,579
Cinn., New Orleans & Texas Pacific	Dec.	337	2,758,781	140,595	3,101,193	374,144	577,919	49,386	848,332	1,959,803	63.2	1,141,390	568,811	567,094	791,563
	12 mos.	337	32,117,227	2,073,456	36,180,454	4,897,975	6,796,263	704,055	10,782,660	24,451,126	67.6	11,729,328	5,786,691	6,224,560	8,327,292
Georgia Southern & Florida	Dec.	397	473,076	75,086	612,744	38,101	39,428	6,428	199,641	301,436	49.2	311,308	90,812	93,117	99,106
	12 mos.	397	5,704,334	741,381	7,095,792	1,603,776	642,548	84,679	2,428,352	4,937,417	69.6	2,158,375	549,239	526,512	516,044
New Orleans & Northeastern	Dec.	204	876,046	61,520	1,000,434	20,937	97,397	17,941	215,350	389,374	38.9	611,060	281,067	280,443	245,281
	12 mos.	204	9,106,484	698,592	10,406,527	1,539,488	1,125,634	213,528	2,503,322	5,855,484	56.3	4,551,043	1,999,552	1,947,771	2,692,434
Southern Pacific	Dec.	8,142	26,842,481	3,002,391	32,538,577	4,482,731	7,920,772	744,916	13,615,791	28,515,385	87.6	4,023,192	1,824,446	1,073,061	1,104,21[illegible]
	12 mos.	8,160	348,035,908	39,805,636	418,444,561	52,473,056	84,713,967	8,687,878	168,222,647	336,780,461	80.5	81,664,100	40,377,531	28,000,165	35,556,509
Texas & New Orleans	Dec.	4,316	8,878,833	731,574	10,289,495	1,807,764	1,696,620	225,152	3,479,874	7,686,934	74.7	2,602,561	1,043,321	1,016,232	697,789
	12 mos.	4,316	103,052,128	8,654,067	119,074,144	18,641,609	17,199,602	2,615,775	43,986,897	88,052,670	73.9	31,021,474	12,680,835	12,511,020	14,349,581
Spokane International	Dec.	152	119,783	1,217	132,046	30,556	45,431	4,734	52,523	142,850	108.2	—10,805	—242,179	216,144	16,993
	12 mos.	152	1,847,160	15,104	2,001,546	476,105	313,525	49,380	803,344	1,746,358	87.3	255,187	—124,674	220,688	209,548
Spokane, Portland & Seattle	Dec.	945	1,765,504	92,937	1,988,469	515,777	288,501	19,750	778,779	1,680,297	84.5	308,172	189,811	4,403	170,023
	12 mos.	945	22,560,460	1,070,283	25,025,256	5,528,349	3,082,438	253,991	8,794,555	18,674,511	74.6	6,350,745	2,020,348	3,036,473	2,189,606
Tennessee Central	Dec.	286	360,655	1,599	381,656	45,762	58,495	10,171	136,781	268,468	70.3	113,188	21,457	62,095	—13,765
	12 mos.	286	4,068,050	29,431	4,321,470	752,783	625,569	118,082	1,637,891	3,343,787	77.4	977,683	287,599	404,253	29,152
Texas & Northern	Dec.	8	62,502	.....	73,145	1,390	4,731	554	15,030	25,529	34.9	47,616	15,292	23,468	.....
	12 mos.	8	758,198	.....	914,948	40,016	68,909	3,997	249,363	421,039	46.1	493,909	163,909	233,275	.....
Texas & Pacific	Dec.	1,846	4,444,908	422,902	5,415,373	780,882	828,637	158,514	2,033,708	4,073,107	75.2	1,342,266	571,924	510,927	490,559
	12 mos.	1,854	52,551,173	4,665,379	62,440,728	9,356,741	9,888,266	1,962,557	23,847,432	48,423,551	77.6	14,017,177	4,982,246	6,405,794	8,507,482
Texas Mexican	Dec.	162	222,223	.....	247,711	72,477	21,559	7,867	55,293	172,106	69.5	75,605	23,026	31,289	—22,656
	12 mos.	162	2,770,566	.....	3,069,930	648,368	305,061	74,799	764,970	1,971,906	64.2	1,098,024	389,841	473,368	273,248
Toledo, Peoria & Western	Dec.	239	403,254	15	406,581	43,754	35,279	39,583	104,617	255,211	62.8	151,370	55,817	63,189	215,702
	12 mos.	239	4,688,736	198	4,757,864	811,289	376,116	408,071	1,235,693	3,123,645	65.7	1,634,219	620,896	682,820	851,127
Union Pacific	Dec.	9,721	27,736,759	2,683,100	33,375,283	4,069,785	7,182,467	796,494	14,733,705	28,838,044	86.4	4,537,239	—1,988,331	5,572,752	2,056,363
	12 mos.	9,724	332,654,719	32,400,923	398,823,082	63,410,805	73,337,289	9,118,500	148,980,346	317,922,665	79.7	80,900,417	42,729,224	21,707,437	41,975,632
Utah	Dec.	111	104,478	.....	104,521	1,038	52,846	923	49,485	111,985	107.1	—7,464	10,860	—3,240	37,618
	12 mos.	111	1,588,005	.....	1,590,062	265,501	623,381	8,636	725,267	1,713,425	107.8	—123,363	146,051	—165,443	—52,716
Virginian	Dec.	661	2,111,328	3,754	2,168,755	253,580	242,223	38,263	601,047	1,223,729	56.4	945,026	506,000	650,282	654,349
	12 mos.	662	28,225,137	47,266	29,208,704	3,942,237	7,304,030	469,181	7,324,160	19,962,388	68.3	9,246,316	4,524,000	6,111,283	8,703,730
Wabash	Dec.	2,393	6,803,580	437,575	7,839,418	884,918	1,040,152	235,375	3,281,732	5,791,065	73.9	2,048,353	680,797	991,271	851,756
	12 mos.	2,393	81,645,055	4,972,234	93,642,963	13,791,552	13,088,542	3,011,927	39,849,110	73,619,761	78.6	20,023,202	7,855,388	7,546,755	13,007,913
Ann Arbor	Dec.	294	615,887	3,013	631,967	74,530	67,699	21,967	303,548	483,975	76.6	147,994	75,593	60,215	49,044
	12 mos.	294	7,331,960	60,103	7,642,142	1,187,055	1,167,253	272,333	3,499,312	6,333,129	82.9	1,309,013	640,014	463,418	906,953
Western Maryland	Dec.	837	2,888,236	10,921	3,049,654	368,434	620,492	66,632	981,982	2,154,047	70.6	895,607	464,639	611,267	654,771
	12 mos.	836	37,043,992	134,203	38,936,544	5,233,720	7,830,058	830,080	12,244,470	27,749,002	71.3	11,187,542	5,603,639	6,710,507	8,668,984
Western Pacific	Dec.	1,195	3,382,373	220,330	3,689,842	381,240	705,288	137,889	1,194,933	2,603,093	70.5	1,086,749	398,426	671,466	—293,876
	12 mos.	1,195	36,840,423	2,865,705	40,881,793	6,872,001	6,838,770	1,981,847	14,327,040	32,538,628	79.6	8,343,165	2,940,540	4,545,064	4,940,897
Wheeling & Lake Erie	Dec.	Included in New York, Chicago & St. Louis.													
	12 mos.	Included in New York, Chicago & St. Louis.													
Wisconsin Central	Dec.	1,051	1,810,192	36,813	2,013,557	306,469	475,296	60,869	880,698	1,817,166	90.2	196,391	16,014	15,544	330,139
	12 mos.	1,051	24,055,884	578,121	26,215,973	4,057,805	4,091,679	712,457	11,105,450	20,964,517	80.0	5,251,456	1,617,388	2,090,719	3,952,724

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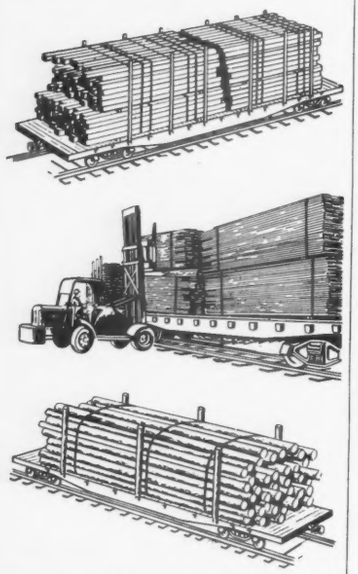

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Current Publications

PERIODICAL ARTICLES

Restored Railroad Credit. A Special Survey of Investment Dealers' Digest, January 16, 1950. Published by the Dealers' Digest Publishing Company, 150 Broadway, New York 7. $1.

William T. Faricy, president of the Association of American Railroads, leads off this discussion of railroad credit with an article entitled "What About the Future of the Railroads?" He is followed by James L. Sheehan, railroad analyst of Dick & Merle-Smith, who discusses "Achieving a Healthy Railroad Economy;" Pierre R. Bretey, of Baker, Weeks & Harden, whose subject is "Modern Equipment Increases Earnings;" and Robert R. Young, chairman of the Chesapeake & Ohio, whose article "Society is the Goat!" hits subsidies. F. Henry Van Ells, research manager of F. P. Ristine & Co., tells "How the Rails Are Meeting Subsidized Competition;" W. G. Vollmer, president of the Texas & Pacific, tells what his railroad learned from the questionnaire sent to all employees in the article "How a Rail Improves Employee-Relationships;" Donald V. Fraser, president of the Missouri-Kansas-Texas, discusses how "Industrial Development Departments are Helping Industry;" and W. Wendell Reuss, guest editor, and partner of McLaughlin, Reuss & Co., concludes the series with "Percentage-Wise, Wage Costs Have been Controlled."

TRADE PUBLICATIONS

Fabco Tie Pads Cut Track Maintenance. 8 pages, illustrations. Published by Fabreeka Products Company, 222 Summer street, Boston 10, Mass.

A booklet on the use of Fabco tie pads to prevent mechanical wear of ties, thereby extending tie life, and reducing expenditures for tie renewals, regaging, lining and surfacing. It also discusses the special benefits of Fabco tie pads for switch ties, bridge ties and ties on curves and in station tracks. A number of photographs illustrating the advantages of using the pads are included.

How to Set Up and Conduct a Safety RX Program. 16 pages. Published by the American Optical Company, Southbridge, Mass.

This booklet is designed to aid any industrial concern planning to establish or expand a program of eye safety through use of prescription safety goggles. It includes information explaining how to obtain necessary professional services to implement an eye safety program, and step-by-step instructions on use of a new Safety RX Order Book offered by the American Optical Company to industrial concerns.

Algrip—The Only Abrasive Rolled Steel Floor Plate. 18 pages, illustrations. Published by the Alan Wood Steel Company, Conshohocken, Pa.

Presents applications, specifications and advantages of A. W. Algrip, a non-slip steel floor plate into which an abrasive grain, of the same type as used in grinding wheels, is rolled as an integral part of its upper portion.

Whiting Simplified, Low Cost Magnetic Controls for Crane Operation. 4 pages, illustrations. Published by the Whiting Corporation, Harvey, Ill.

Discusses the advantages of the Whiting simplified crane-control system which employs small master switches and solenoid starters. It is pointed out that this type of system permits use of the Whiting full-vision cab which allows the operator to remain comfortably seated during all crane operations.

Instructions for the Maintenance of Gould Batteries for Diesel Engine Cranking Service. 3 pages. Published by the Gould Storage Battery Corporation, Trenton 7, N. J. Free.

This new bulletin describes 14 battery maintenance procedures from initial installation through complete charging operations. Among the subjects discussed are safety rules, proper installation of batteries to prevent shifting, battery cleaning, compartment ventilation, cell identification, effects of temperature and electrolyte level on specific gravity, use of pilot cells and the addition of acid.

Fiberglass Thermal Insulations. 16 pages, illustrations. Published by Owen-Corning Fiberglass Corporation, Toledo 1, Ohio.

Describes all forms of Fiberglass insulations for industrial and building applications, including uses in low-temperature structures. Data on thermal conductivity and sound absorption are included, as are tables giving specification information for various types of insulation. The illustrations show the different insulations being applied.

PAMPHLETS

Rules for the Receipt, Handling, Stowing, Bracing and Delivery of Less-Than-Carload Freight. 100 pages, illustrations. Published by the Association of American Railroads, 59 East Van Buren street, Chicago 5. Single copies, 35 cents; lots of 25 or more at reduced prices.

This booklet is an October, 1949, revision of l.c.l. rules, prepared by the Freight Loading and Container Section of the A.A.R. for the purpose of acquainting railroad personnel with the importance of properly preparing shipments so as to reach the ultimate consignees without damage. Included are rules for the receipt, handling and delivery of l.c.l freight; rules governing the inspection of cars; 80 pages of rules for loading and stowing cars, by commodity, with diagrammatic drawings, and an index of loading rules by commodity.

Employment Outlook in Railroad Occupations. 52 pages, illustrations. Prepared by the Bureau of Labor Statistics, United States Department of Labor. Available from the Government Printing Office, Washington, 25, D. C. 30 cents.

Identified as Bulletin No. 961, this pamphlet is one of a series of occupational studies prepared in the bureau's Occupational Outlook Branch for use in vocational counseling of young people in school, veterans, and others interested in choosing a field of

work. After a general discussion of the railroad industry, railroad workers, employment outlook, labor organization, earnings and working conditions and how to enter railroad work, there follows a more detailed discussion of the duties, qualifications, outlook, earnings, and working conditions for the various and numerous railroad occupations.

A Study of the Illinois Central Railroad. 40 pages, illustrations, maps. Published by Harriman Ripley & Co., 63 Wall st., New York 5.

With the expenditure of approximately $38,000,000 last year, the Illinois Central has plowed back an aggregate of $202,750,000 into additions and betterments to its transportation property since 1930. This and other salient facts concerning the extraordinary progress that the road has made in rebuilding its financial structure are disclosed in this study. It points out that "the very considerable expenditures which have been made in order to place Illinois Central's transportation property in first rate condition should give the management good control over maintenance expenditures in any future period of temporary business adversity. In view of the record of earnings, its currently favorable level of transportation costs and good physical condition, we believe that it should be able, in the future, to make enough income to support comfortably its present level of fixed charges." Profusely illustrated with photographs and charts, a freight traffic density map and a mortgage map, and containing a 15-page appendix of statistics covering the last 20 years, the study is believed to be one of the most comprehensive of its kind ever issued. It is accompanied by a 10-page discussion and statistical study of the railroad's new consolidated mortgage bonds.

Railways at Work. 47 pages, illustrations. Published by the Department of Railways, New South Wales, Public Relations Section, 19 York st., Sydney, N.S.W., Australia. Free.

Its object being to outline some of the more interesting aspects of the New South Wales railways at work, each page of this booklet contains a photograph and brief explanation of some phase of railroad operation.

A Decade of Progress, 1939-1948; A Four Hundred Million Dollar Accomplishment. 39 pages. Published by the Atlantic Coast Line, Wilmington, N. C. Free.

From 1939 through 1948, the Atlantic Coast Line spent almost $400,000,000 on improvement, modernization and maintenance of its physical properties. This booklet outlines the equipment and roadway programs on which the money was spent, and the savings resulting from them (e.g., operating savings resulting from substitution of Diesel power for steam power, economy and labor-saving features of roadway machines and power tools, etc.). Succeeding sections discuss the road's debt reduction program and industrial development in the Southeast. The booklet concludes with a discussion of what the road accomplished in its modernization program in 1949 and what it hopes to do in the future.

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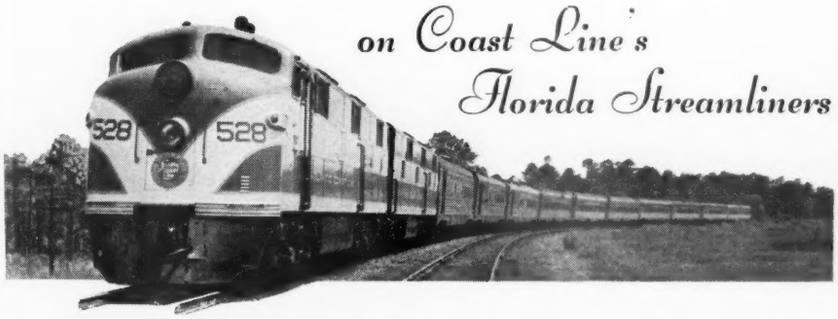
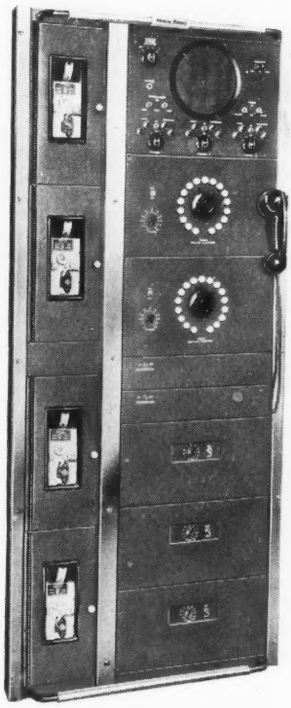


To make the traveler's trip more interesting and enjoyable; to make the miles seem shorter, the Coast Line has equipped its "Florida Special", aristocrat of its fleet of winter trains, and its "West Coast Champion" with a Western Electric Program Distributing System, and is also similarly equipping its "East Coast Champion".



This system, distributed exclusively by Graybar, consists of the Western Electric 100 type Program Distribution System Panel shown at left, plus all accessory equipment, such as antennae and lead-ins. Also, high-quality Western Electric 755A loudspeakers with transformers, selector switches, volume controls, and all associated wiring.

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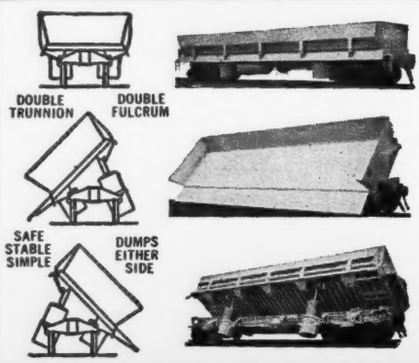

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